

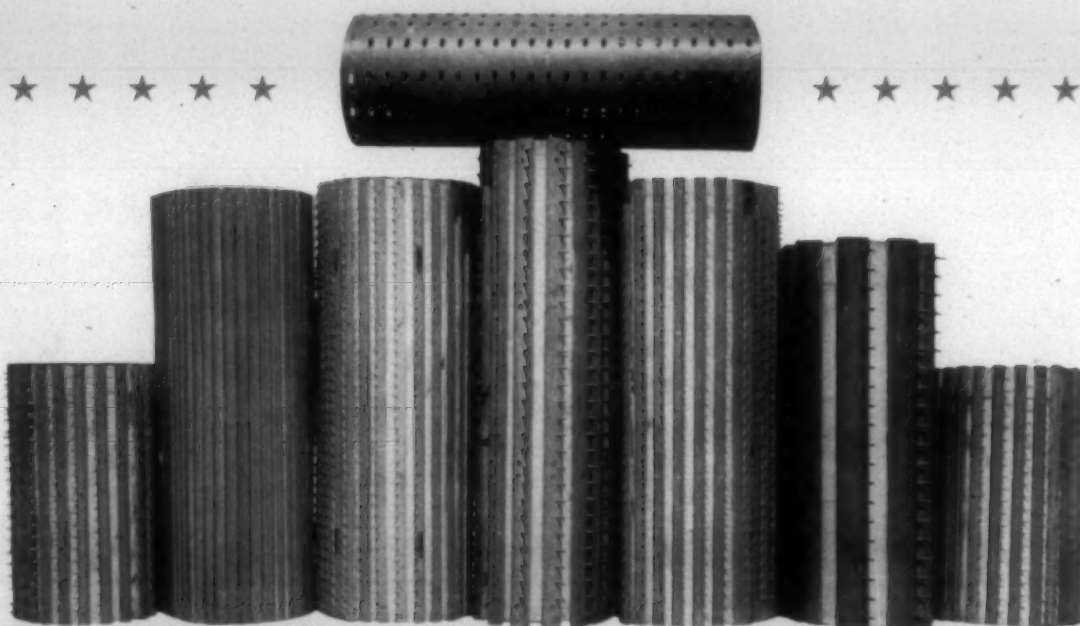
TEXTILE BULLETIN



L. 65

FEBRUARY 15, 1944

NO. 12



"As the twig is bent, the tree is inclined"

Every cotton textile product gets its "start in life" in the opening and picking room. If it is not a GOOD start, imperfect yarn is the inevitable result no matter how good the carding and spinning or how much care is employed in subsequent processes. "As the twig is bent, the tree is inclined."

That's why it is so important that your pickers do their job with consistent thoroughness, but this is impossible with inferior Aprons. Make sure that YOUR pickers are equipped with the best Aprons money can buy . . . give your product the RIGHT START with WHITEHEAD Aprons.

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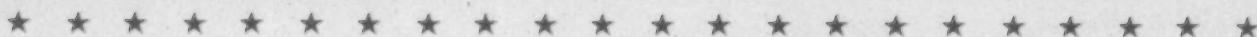
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CHARLOTTE, N. C.

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From the very beginning it has always been our sincere desire to make U. S. Ring Travelers better and better, and this desire has been reflected in the improvements that have been made in the design and manufacture of these travelers over the years.

We know that U. S. Travelers today are the finest we have ever produced, but we are just as certain that they will be still finer tomorrow.

Leadership in any field can be maintained only by constant improvement. Current designs, materials and methods employed in the manufacture of these travelers are never "frozen"—even in wartime.

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AMOS M. BOWEN, President and Treasurer

PROVIDENCE, R. I.

GREENVILLE, S. C.

Bowen Square Point Travelers

Bowen Improved Vertical Bronze

Bowen Patented Ne-Bow Vertical

Bowen Flat, Oval and Round Wire Travelers

Bowen Patented Bevel Edge

Bowen Round Point Travelers

Bowen Improved Vertical Offset



Published Semi-Monthly by Clark Publishing Company, 218 W. Morehead St., Charlotte, N. C. Subscription \$1.50 per year in advance. Entered as second-class mail matter March 2, 1911, at Postoffice, Charlotte, N. C., under Act of Congress, March 2, 1897.

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...and the American manufacturers whose skill and enterprise provide them with the finest equipment in the world.

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Ironing out the wrinkles in the chemicals supply situation continues to be a difficult job for the processor of civilian goods.

Ways-and-means, however, to smooth out many such production problems are available through the use of alternate non-priority materials. What these materials are...how they can best be utilized...are part of the wartime information service that Cyanamid has undertaken with civilian goods indus-

tries specifically in mind.

Whatever your present difficulties may be growing out of the chemical shortage situation...consult with Cyanamid. Here we are prepared to work with you in the solution of your problems making recommendations that may not only "stop-gap" current needs but which may serve to open new opportunities for postwar processing developments.

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AND OTHER SPECIALTIES FOR THE TEXTILE INDUSTRY

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THIS IS NO. 43 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation



(The third in a series of articles on tools used with Universal Winding Machines. Earlier articles discussed tools for the Roto-Coner* and No. 50.)

SPECIAL TOOLS USED ON NO. 90 WINDING MACHINE

The No. 90 Winding Machine requires the use of the following special tools:

Traverse Wheel Hub Cleaner	90-492-3
Spindle Driving Gear Locating Gauge	90-880
Clutch Collar Adjusting Gauge	90-1876
Clutch Lever Spring Lifter	
Hook	50-279
Gainer Mechanism Wrench	90-164
Traverse Bar Bearing Persuader	90-1875
Traverse Bar Lever Driver Wrench	90-179
Traverse Bar Support Bracket Nut Wrench	90-3689
Cop Former Gauge	90-1040X
Frame Oil Tube Nut Wrenches	90-693-B
	90-693-C
Drive and Rocker Shaft Bushing Nut Wrench	90-165
Coupling Wrench	160-211
Oil Gun	90-846

TRAVERSE WHEEL HUB CLEANER



Fig. 1 Traverse Wheel Hub Cleaner, 90-492-3

Dirt and lint accumulating on the inside of the Traverse Wheel Hub is not readily discernible. So if the Wheel is found to be acting sluggishly, not rotating freely on the Traverse Bar, or if "ridgy" bobbins are be-

ing produced, it is likely that lint has collected in the Hub and is preventing free action.

To remove the dirt accumulation, it is necessary to disassemble the Traverse Wheel from the Traverse Bar. Tool 90-492-3 is then used. It is essentially a small rod, of exactly the same diameter as the Traverse Bar, and has a series of seven teeth. When it is inserted into the Hub, the Hub can then be turned on the Hub cleaner by hand, and the accumulated dirt will be thus cleared out.

SPINDLE DRIVING GEAR LOCATING GAUGE

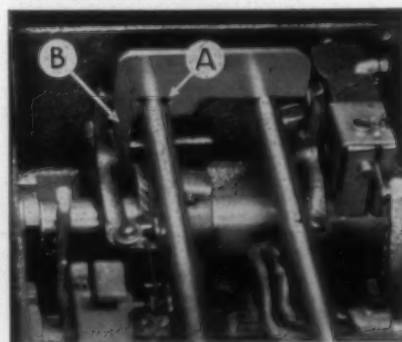


Fig. 2 Spindle Driving Gear Locating Gauge, 90-880

The Spindle Driving Gear (90-212-3AX) is so designed that when it becomes worn, it can be split into two pieces with a cold chisel and easily removed from the machine. New replacement gears come already split (90-212-3X), and are properly applied to the Driving Shaft with the aid of the Locating Gauge.

It is first necessary to remove, in order:

Sleeve	90-26
Clutch Spring	CS-525 or CS-526
Clutch	90-15
Spindle Gear	90-16-L or 90-16-R
Collar	90-459-4X
Spindle	90-866 or 90-866-C

The two pieces of the new Spindle Gear should then be assembled on the Driving Shaft with screws SC-4902, brought up evenly and finger-tightened. This is the point where the Locating Gauge is to be used.

With the operator facing the side of the frame nearest the Driving Shaft, the Gauge is placed over the two spindles, with the opening (A) in the Gauge straddling the right-hand spindle and the rest of the Gauge resting on the second spindle. The projection (B) on the Gauge should, of course, be pointing down.

The Driving Gear is now brought up face to face with the projecting finger (B). Then, with the Gauge held firmly against the spindles and against the face of the Driving Gear, the two parts of the Gear can be tightened to the shaft by a wrench.

Following this, the other parts are re-assembled.

CLUTCH COLLAR ADJUSTING GAUGE

In case it becomes necessary to readjust the Spindle Gears (90-16-L or 90-16-R) to the Clutch (90-15), the Gauge 90-1876 is used.

The two spindles are set at one time. Tapping each Spindle Gear lightly with the wooden handle of a screw-driver will make sure that the inside surface of the Gears is in contact with the outside or wearing surface of the Clutch. The Clutch Collars (90-459-4X) should then be freed from the spindles and the Gauge inserted between the Collars and the Spindle Gears. The Collars are then to be drawn securely against the Gauge and tightened. After removing the

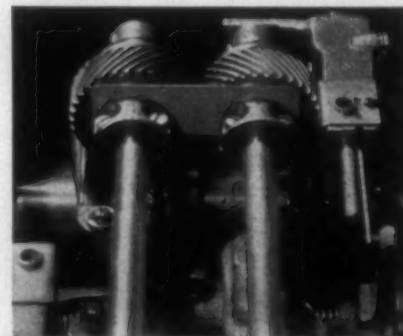


Fig. 3 Clutch Collar Adjusting Gauge, 90-1876

Gauge by hand, the Spindle Gears should be tapped lightly again with the screw-driver handle to become free from contact with the Clutch.

See our Catalog in TEXTILE YEARBOOK 43-GMW-43

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RIGHT ON YOUR DESK-TOP

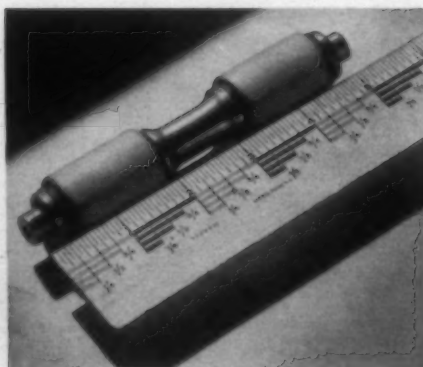
YOU CAN PROVE WHY SPINNA CALF

WORKS BETTER ON YOUR ROLLS



**It's high-friction ...
eliminating "eyebrows"!**

Press down at a slant. That Spinna Calf won't be pushed smoothly ... friction holds it back, giving way in short jumps only when you apply more pressure. That signifies a superior friction surface (compare it with other materials), carrying waste well onto the clearer — and improving drafting, too!



**It holds its shape ...
no hollowing-out!**

Take a Spinna-covered roll that has been running for a while off the frame and place it against a perfectly straight surface, such as a ruler. You won't see light in-between, because Spinna — the more resilient calfskin — holds its shape from end to end ... it always springs back after the traversing of the sliver.



**It's triple-resilient ...
no trouble from hard ends!**

Roll a Spinna-covered roll over a length of thread. The desk-top won't give way — the leather has to. But then examine the roll cover. It has sprung immediately back into shape without a trace of a groove. Ordinary hard ends can't harm Spinna! You can depend on Spinna for top-quality work ... a long time.



Lively

SPINNA CALF

ROLL COVERING

*It's Triple
Resilient*

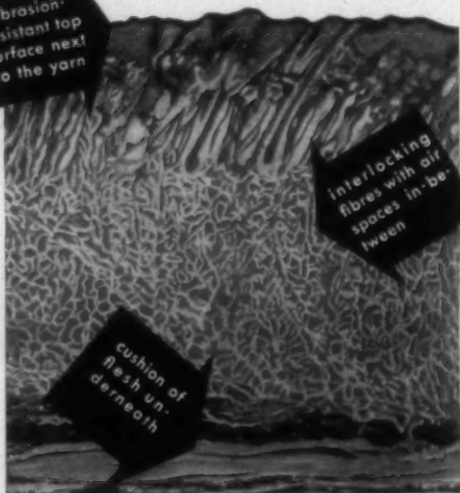


For freedom from the troubles that may interfere with spinning frame, efficiency and yarn quality . . . for the longer life that Spinna Calf's strong wearing surface promises . . . tell your roll coverer: "Spinna Calf".

Spinna Calf..

AIR CUSHIONS IN A NETWORK OF TOUGH, SPRINGY FIBRES

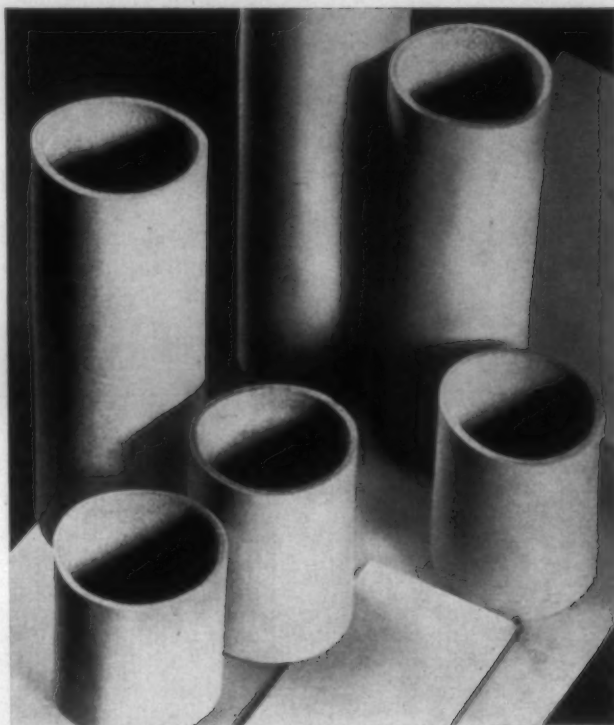
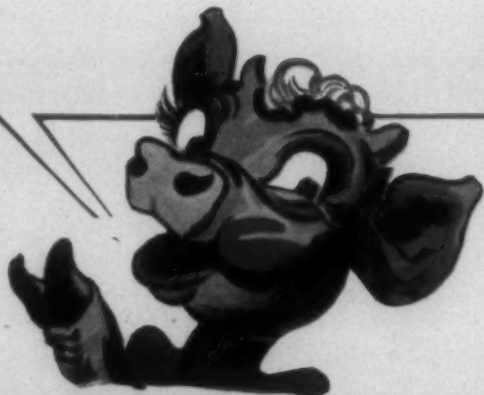
abrasion-resistant top surface next to the yarn



interlocking fibres with air spaces in-between

cushion of flesh underneath

"If you want roll covering that is adjustable to all counts . . . can take ordinary hard ends without leaving grooves . . . and stays kind to the yarn for up to 18 months and more in front line positions . . . then Spinna Calf — the most generally-used calfskin — is your best choice."



Leather aprons can't be challenged for **CONVENIENCE...**

Lawrence Chrome has no superior for **DRAFTING**

One big advantage common to all leather aprons is — they are furnished open-end and can be installed as needed, even in bottom positions, without costly delays. You can maintain uniformity because *all* spindles can be running on the *same* apron material — leather.

Lawrence Chrome adds the important advantage of superior drafting quality. And that's the reason why *Lawrence Chrome* is being used more on spinning and roving frames than any other type.

Lawrence Chrome has a smooth, firm, high-friction surface that holds the fibres — even the shortest — right in line, for a positive draft. Oily and gummy deposits are absorbed by the leather pores, none being left on the surface to spoil the yarn. And being mineral-tanned, *Lawrence Chrome* reduces static troubles.

Life is longer, too, because *Lawrence Chrome's* firmly-knit fibre structure resists abrasion for a long period of time and refuses to "bell out" with pressure of the traversing yarn.

Lawrence Chrome is standard with *Whitin Machine Works*. And apron manufacturers in important textile centers will tell you it gives superior results. Specify *Lawrence Chrome* for your next aprons.

LAWRENCE **CHROME** LEATHERS

1st Choice for Aprons

A. C. LAWRENCE LEATHER COMPANY
PEABODY, MASS. GREENVILLE, S. C.

DU PONT CONTINUOUS P

*High speed
bleaching at
lower cost*

- Uniform, high quality bleach in two hours.
- Cuts time of processing.
- Pick-up and delivery from bleach house in same day.
- Saves time, steam and chemicals.

THE SPEED and economy of streamline methods are to be found in the Du Pont Continuous Peroxide Bleaching System. Batch bleaching in stationary equipment has given way to continuous processing—a radical departure from usual bleaching technique.

The design of this equipment and the operation are based upon Du Pont research and co-operative development with leading textile mills.

A FULL BLEACH IN TWO HOURS—From gray goods to full white takes two hours of processing. Compare this with the usual kier operations requiring 8 to 14 hours of treatment. This greater speed means important economies in large runs, and in small lots when speedy delivery is needed.

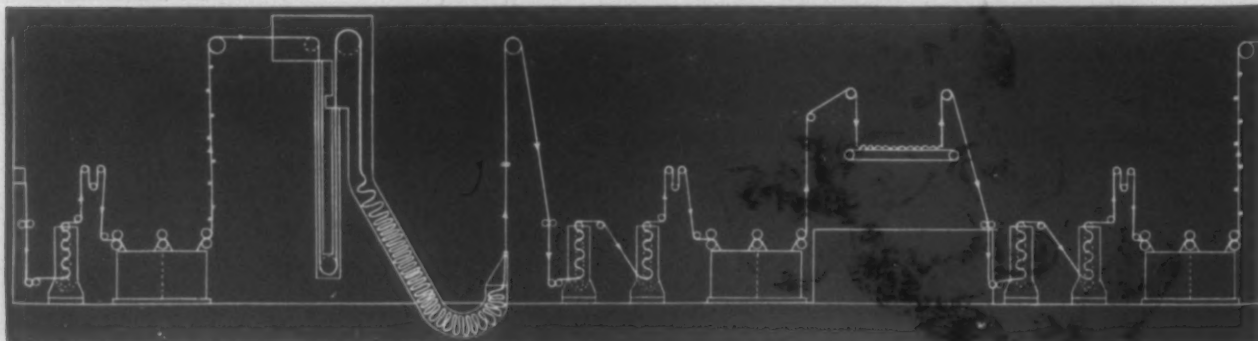
YARD-TO-YARD UNIFORMITY—Every yard of material

gets the same treatment from start to finish. Uniformity of white appearance and absorbency are certain. Kier stains and batch-to-batch variations are eliminated.

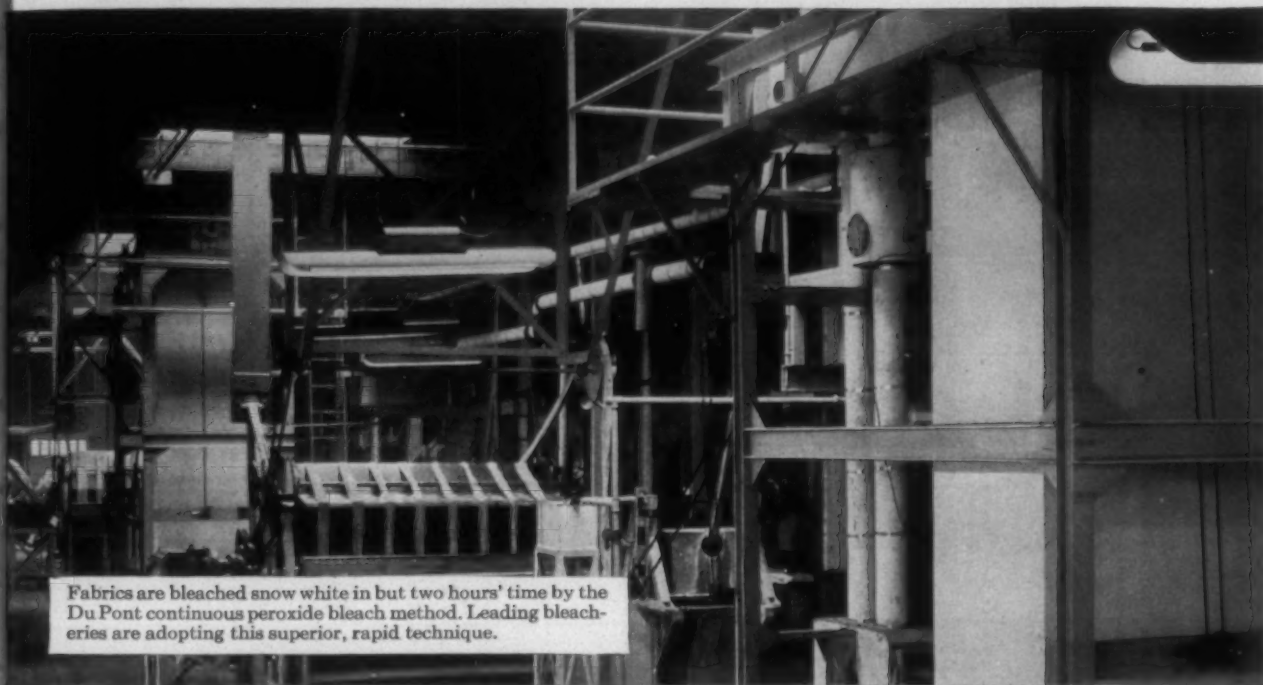
EASY CONTROL—Continuous handling permits close control of speed, steam, saturation with caustic and peroxide, temperature and time of bleaching. The operator can maintain constant supervision of all moving parts, which may be controlled from a central panel board. Bleached goods can be inspected promptly and equipment and chemicals adjusted at once for necessary changes.

CAPACITY OPERATION WITHOUT INTERRUPTION—The Du Pont process provides a continuous flow of bleached cloth. Time normally lost in loading and unloading kiers is saved for productive use.

FLOW PLAN OF TYPICAL DU PONT CONTINUOUS UNIT. DU PONT PEROXIDE AND SILICATES ARE USED. FABRIC TRAVELS



PEROXIDE BLEACH



Fabrics are bleached snow white in but two hours' time by the Du Pont continuous peroxide bleach method. Leading bleacheries are adopting this superior, rapid technique.

SAVES STEAM, WATER AND CHEMICALS

Substantial savings in steam, water and chemicals are obtained when using the Du Pont continuous system. Standard textile chemicals are used. Outstanding features of the process are its efficient operation and low maintenance.

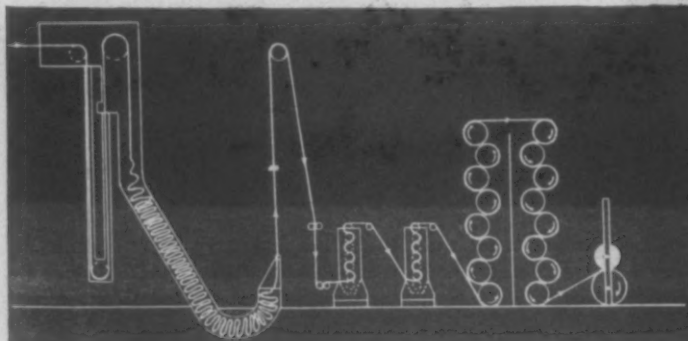
This new continuous process is in full operation in several leading bleacheries in the United States. Equipment based on Du Pont design is built by recognized manufacturers of textile finishing machinery.

For further information and technical service on the use of peroxides in continuous bleaching systems, write us and we will be glad to assist. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington, Del.



This photograph shows a unit in the Du Pont continuous bleach process where the fabric is rapidly saturated with dilute hydrogen peroxide.

THROUGH THE SYSTEM AT 100 YARDS OR MORE PER MINUTE.



DU PONT PEROXIDES



REG. U. S. PAT. OFF.

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SOFTNESS



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For that soft, luxurious, downy handle and other various special effects, Onyxsan enables dyers and finishers to obtain remarkable results. The Onyxsan group of finishing agents are substantive to cellulosic fibers and produce a pleasing, wash resistant finish.

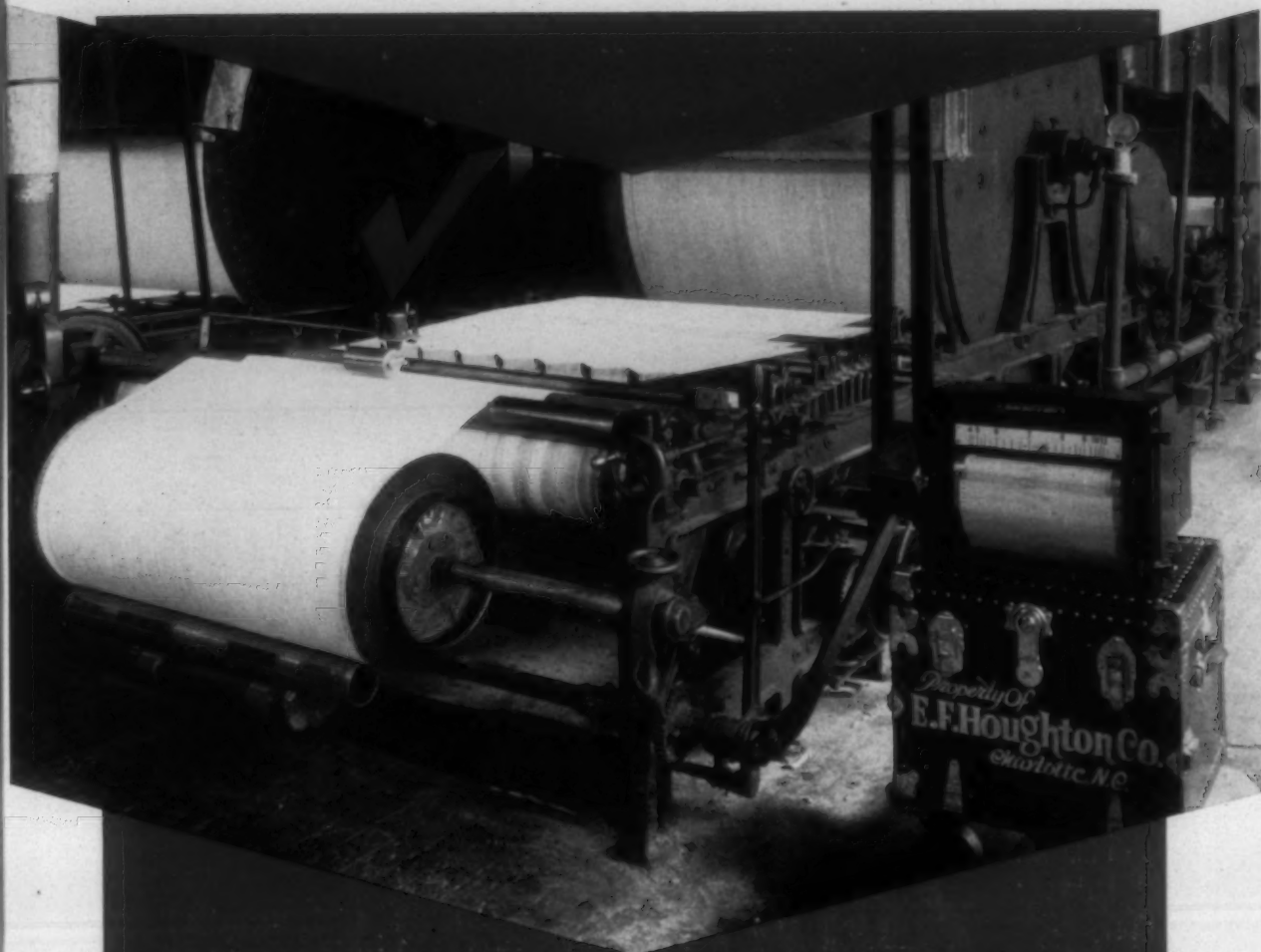
Your inquiries are solicited.

*For downy softness on all types of fabric, even the most delicate shades — use Onyxsan.



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JERSEY CITY, N. J.

PROVIDENCE • CHARLOTTE • CHICAGO • LOS ANGELES • TORONTO • MONTREAL



HOW WET IS YOUR WARP?

That question is important, because proper moisture means better weaving.

Many warps are found to be running too dry. Increasing the moisture content means faster run over drying cans, which means more beams per day—increased production.

Further, higher moisture content permits lower humidity in the weave room, resulting in a stronger warp, with less shedding at the loom.

This ascertaining of moisture content is only one feature of the warp sizing service we render. The Houghton Warp Size Check-up Test includes

laboratory check of unsized and sized warps as to moisture regain, boil off, amount of size added, breaking strength, elasticity and fiber lay.

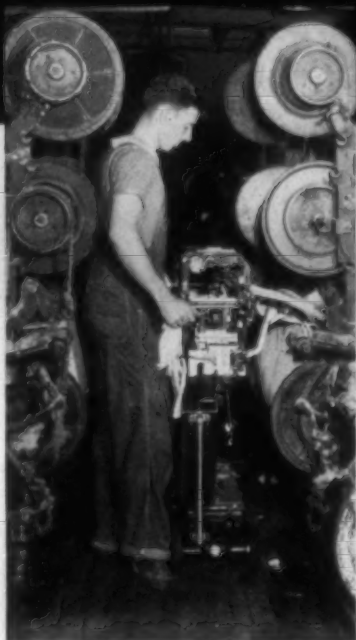
By this means you can evaluate your present methods, and see what advantages may be obtained by using a superior, concentrated sizing compound—Houghto-Size. Ask the Houghton Man, or write direct for full details and folder.

E. F. HOUGHTON & CO.

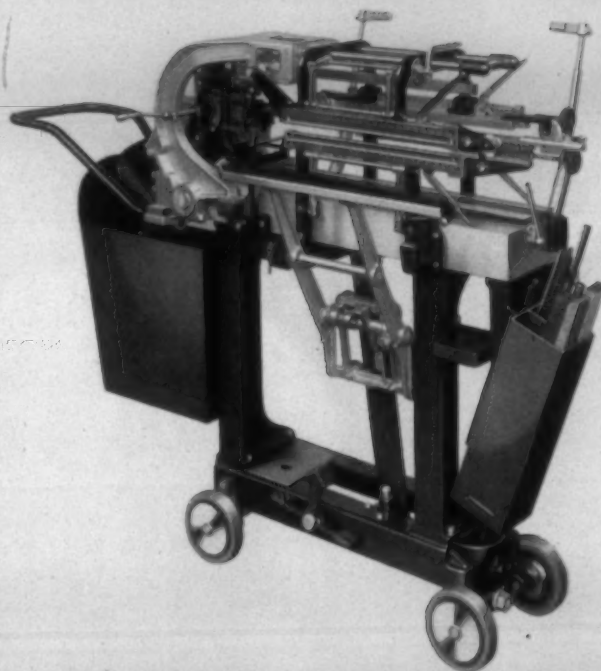
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HOUGHTO-SIZE FOR COTTON WARPS

DESIGNED FOR **NARROW** LOOM ALLEYS and **CRAMPED** QUARTERS...

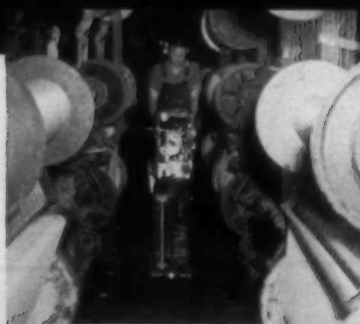


Working directly in back of the loom, the operator ties-in the warp in sections, each section or load being approximately 15" wide. The machine is hand-operated, usually at about 300 knots a minute.



A "stumbler" on the knoter eliminates missing any ends, producing a uniform row of firm knots.

BARBER-COLMAN *Portable* WARP TYING MACHINE



The machine is light, sturdily built, and can be easily and quickly moved from one location to another.



It is compactly designed so it will work in alleys as narrow as 12". Models are available for cotton, wool, or rayon.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • TWISTER CREELS • MOISTURE CONTENT CONTROLS

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THIS IS THE PICKER THAT LASTS LONGER and COSTS LESS!

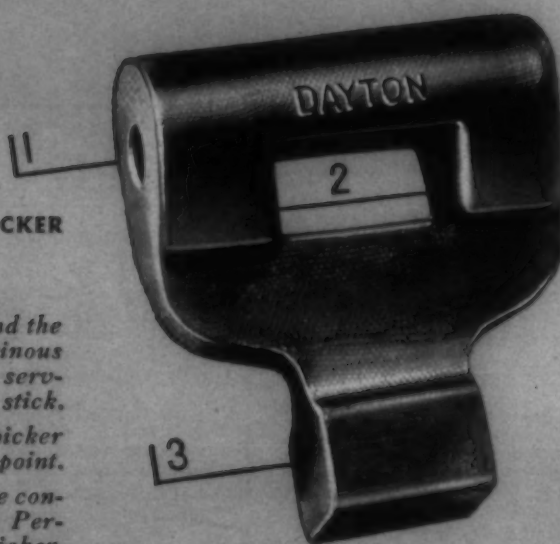


DAYTON REVERSIBLE DROP-BOX PICKER WITH EXCLUSIVE 3-POINT DENSITY CONSTRUCTION

Point No. 1—Composition is harder around the spindle rod. Oil-less, self-lubricating resinous bearing will not become egg-shaped in service. Positively will not wear the picker stick.

Point No. 2—Softer composition at the picker stick contact. Proper cushion to shuttle point.

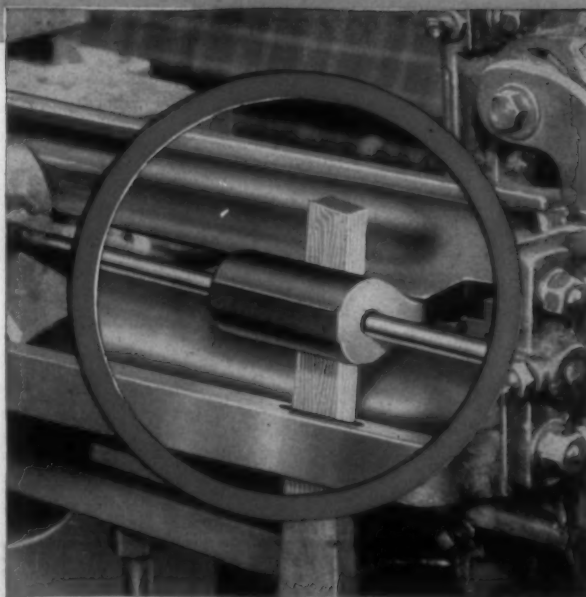
Point No. 3—Special composition at shuttle contact eliminates shuttle point loosening. Perfect throw to shuttle throughout life of picker.



Increased production schedules have served to spotlight the extraordinary efficiency and longer life of the Dayton Reversible Drop-Box Picker. The one piece molded construction of this picker insures the maximum cushion against picker stick, a uniform and correct shuttle contact point and a permanently perfect throw to the shuttle. No pre-aging or dipping is required for this picker that gives the lowest cost per loom hour.

Like all Dayton loom supplies the Dayton Reversible Drop-Box Picker is backed by years of rubber research and experience. It is a good example of the Technical Excellence which the Textile industry expects and gets from Dayton Rubber.

THE DAYTON RUBBER MANUFACTURING CO.
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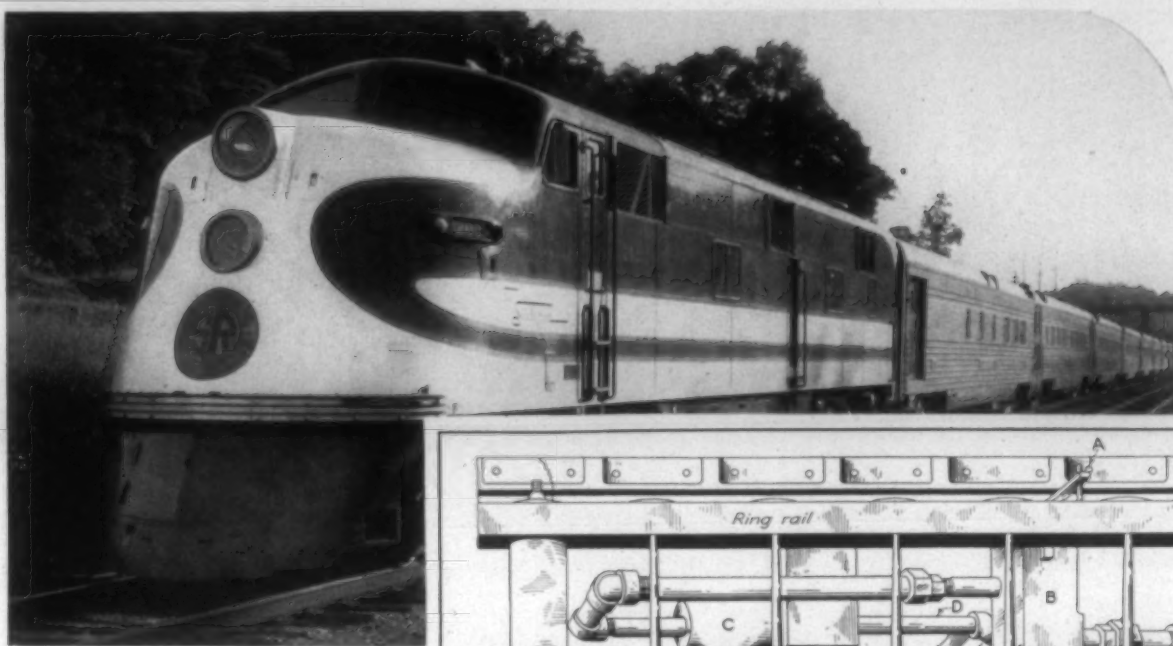


LET'S ALL BACK THE ATTACK WITH WAR BONDS

Pickers by **Dayton**
Rubber



REG. TRADE MARK THE DAYTON RUBBER MFG. CO.



FOR
Speed
DEISEL ELECTRIC POWER
FOR PERFECT CONTROL
AIR BRAKES

The same principle of positive "air pressure" control can be applied to your spinning and twister frames, either warp or filling. **O. B. Pneumatic Stop Motion** permits positive control of your yarn, eliminating waste caused from uneven packages and overrun bobbins. The actuator can be set to any predetermined number of yards, and by operating from the ring rail—the closest point to the package, the yarn is controlled to a definite point; in most cases less than 10 yards.

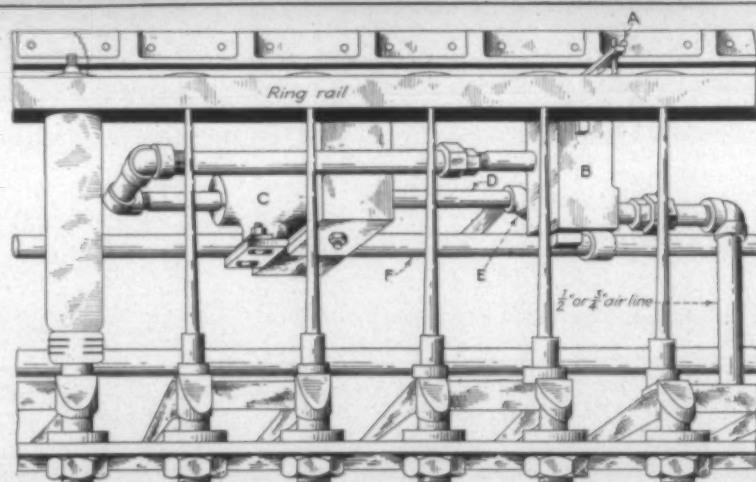
Stop Motion is equipped with a standard actuator for filling wind, or a multiple actuator with graduated yarn scale for warp wind.

Every installation made to date has resulted in important savings in both time and materials.

Write for full particulars

**ERNEST F. CULBREATH
COMPANY**

Charlotte 2, North Carolina
S. E. AGT., FLOYD ISOM, BOX 184, STATION C, ATLANTA, GA.



O. B. PNEUMATIC STOP MOTION

(Pat. No. 2,283,283)

For Spinning and Twister Frames

★ **ELIMINATES WASTE**

caused by uneven packages and over-run bobbins.

★ **ELIMINATES SECONDS IN WEAVING**

due to sloughing caused by over-run bobbins.

★ **SAVES OPERATORS' TIME**

by automatically cutting off frames when they're ready to doff, adding to quality and production.

★ **INSURES UNIFORMITY**

as Stop Motion can be readily adjusted to knock off frame at any pre-determined yardage.

★ **POSITIVE, DEPENDABLE, SIMPLE**

no springs, weights, gears or other complicated mechanism.

★ **ADAPTABLE TO YOUR NEEDS**

can be applied to any type frame or drive, either direct motor or belt driven.

★ **PROVEN AND ACCEPTED**

by several years of successful, trouble-free operation in well-known textile mills.



A Long Range Look into the Future of Cotton Spinning

E. C. GWALTNEY, Director of Research, Saco-Lowell Shops

THE future that is the subject of these remarks is not the immediate future dominated by war conditions, nor the period following the war when the world is recovering from this upheaval and trade channels are still affected by abnormal conditions. It appears that for some time after the war there will be a demand that will keep our looms and spindles active and profitable even with the high costs of today. War years and boom years are of relatively brief duration. The purpose of this discussion is to try to determine what our situation will be "in the cold, gray dawn of the morning after" and what, if anything, can be done to improve our competitive position as spinners of cotton or synthetics. This discussion is more or less speculative, and the solutions suggested are along the lines that appear to be most profitable. It would be very foolish for any spinner to put off the purchase of those improved machines offered today and wait for machines to be brought out that would allow drafts or produce packages that would make all of the suggested savings possible. There are no such machines available now or in the immediate future.

Cotton now is, has been, and will be the work horse of all the fibers. In the year 1920, 88.9 per cent of all fiber consumed in the United States was cotton. In the year 1942 this had been reduced to 82 per cent, a loss of less than seven per cent in 22 years; and this was the period that saw the development of synthetic fibers which replaced silk and which increased from 0.3 per cent to 9.1 per cent of total fiber consumption. It is doubtful if anyone alive will live to see the time when cotton will fall much below 75 per cent of all fibers consumed in this country.

While fully aware of the still greater development just ahead of us in synthetic fibers and having seen and spun some of the amazing new fibers that have not yet been disclosed to the industry, and expecting that there are even more surprises in store for us in the way of synthetics from

the blockaded countries of the Axis—taking everything into consideration it appears that cotton will occupy the major portion of our looms and spindles for the next 20 years at least.

There will be many varied and interesting problems to be solved in the spinning of these new products, but as Kipling says, "That is another story." As synthetics replace cotton, a part will be in filament form which will not require the spinning processes and so those preparatory processes and spindles will be abandoned and lost to the industry. Where synthetics in staple form replace cotton, developments that result in lower costs or improved quality in the spinning of cotton will also be applicable to the spinning of those synthetics.

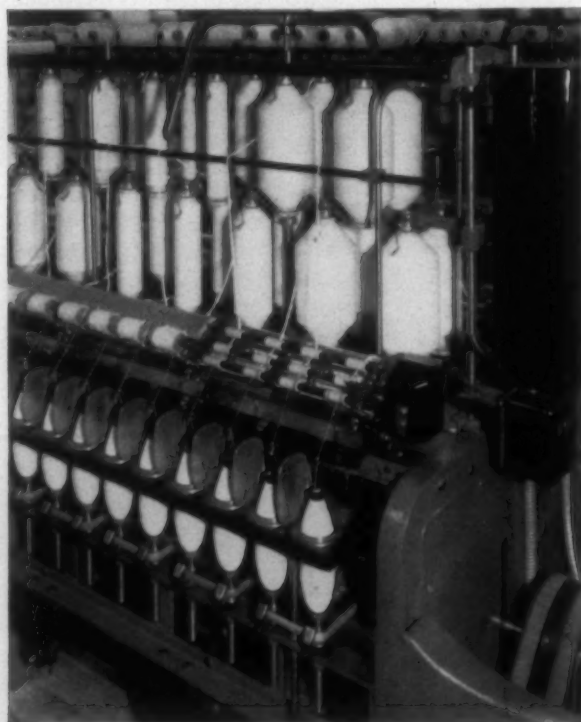
It is said that "necessity is the mother of invention." These figures I think will show a necessity. Our average pre-war production of cotton yarns was approximately three billion pounds. We are now producing at the rate of five and one-half billion pounds or nearly double our peacetime consumption. It is obvious if we do not export a large part of our production, in a short time we will enter a period of almost ruinous competition. We all know cotton prices are abnormally high. There is an old saying in the cotton belt that ten-cent cotton will make the South blossom like a rose. The late David Coker of Hartsville, S. C., probably knew more about cotton and did more to help the Southern cotton farmer than any man who ever lived. A short while before his death he and I discussed for three hours his plan that would, as he expressed it, "allow the farmer to produce middling and better 1 $\frac{1}{8}$ -inch cotton for nine cents at a profit." Knowing him as I did, I am confident that if he could have put his plan into action, it would have worked.

While the laws of nature and economics as well as the calendar are being suspended by our present political leaders, they cannot be repealed, and the law of supply and

This article by Mr. Gwaltney was presented initially in the form of an address to the New England Textile Club's monthly meeting at Boston, Mass., Jan. 8. The club's membership is composed of superintendents and agents of textile mills in that area. The author's discussion covers the entire process of cotton spinning and puts forward a number of suggestions as to how it may be possible for the industry to improve its competitive position in post-war days.

demand will eventually control our raw material prices. If, when raw material costs are competitive we are still handicapped in world markets by such high labor costs, it would appear at first glance impossible for us to compete. For a long time I thought so until, a few years ago, I was taken through a large Massachusetts plant making yarns other than cotton and was told by the treasurer that they now produce with eight man-hours what they used to require 40 man-hours to produce; that they made this product in Massachusetts as cheaply as they made it in their own mills in a country noted for its cheap labor. Such a statement before going through the plant seemed incredible, but I must confess I was convinced and left the plant in a most humble frame of mind. While the figures have never been published I feel reasonably sure that a modern weave room in this country, making print cloth on Draper Model X looms with weavers running 80 to 100 looms, can weave cloth at as low a cost as some of the low wage countries using the equipment available to them now or in the near future. Draper has revolutionized the cost of weaving. Barber-Colman has done the same with spooling and warping, and drawing-in warps. It is only in the spinning of yarns that we find no such radical economic advances. While it is true some progress has been made by reducing processes and lengthening drafts, the approach has been rather timid. Recently, a breakdown of the cost of manufacture in some of the largest and most profitable mills showed that the labor cost per pound ran from five to ten times the per pound cost of interest and depreciation, taking interest at four per cent on the undepreciated cost of the plant. In planning new plants, changes and additions, it is most important that we keep these figures in mind.

There are four obvious ways to reduce still further overall costs in the spinning operation—better preparation, longer drafts, larger packages and reduction in number of operations.



Use of larger packages in cotton spinning is one of the things Mr. Gwaltney expects modern mills to take advantage of in order to reduce costs.

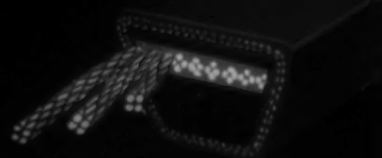
Better preparation can be had at practically no increase in labor cost in the processes involved, but, if adequate, can result in lower raw material cost and lower labor costs in the subsequent processes, as proper preparation will allow an operative to run more spindles and loom where costs are much higher than in the preparatory processes. We all realize there are very few mills in the industry that have even nearly enough cards. Cleaning and picking today are so nearly automatic that labor cost per pound is almost negligible. The cost of putting any given production through cards is almost the same whether it is put through 20 cards at ten pounds per hour or 40 cards at five pounds per hour. The greater part of the labor involved is doffing cans and lapping cards. Improved preparation will produce better yarn from the same stock, or, if no advantage in price can be realized on the improved quality, an adequate product can be made from a cheaper raw stock. There are many mills that are finding this most profitable though few, if any, have exhausted the possibilities offered.

Concerning Longer Drafts

While the industry has come a long way in the last 20 years, all possibilities are by no means exhausted. As drafts increase, the size of the supply packages can be increased. While it is no great achievement in the present state of the art to make perfectly good yarns from drawing sliver without the roving process, and it has been done commercially, it has so far proven a failure from an economic standpoint. The package from the drawing frame is a most awkward, unwieldy and bulky supply for a spinning frame, so much so that from a cost standpoint it has been cheaper to use the roving process. Consequently, when we spin all our yarns from one-process roving, the opportunity for savings by use of still longer drafts is rather limited. Where jobs are set up by time studies and not by arbitrary union rules, the difference in cost of making coarse and fine roving is nothing like that of the old three-process rovings. Given the same frame size, the cost of making roving is mostly creeling and doffing and an operative can creel so many cans and doff so many bobbins a day. On fine roving it will require more spindles to supply the operative with his normal task. Then, the major increase in cost will be in the interest and depreciation of the additional machines and the power to drive them. So, it is obvious, that when we have installed one-process roving and long draft spinning, the savings from increased draft are rather small unless the draft in the spinning can be increased to such a point that the roving can be made on a larger size roving frame, for instance, substituting a 12x6 or 10x5 for the 8x4 or 7x3½.

The largest element of our labor cost in cotton spinning is handling the full and empty packages. Double the size of all packages and you have gone a long way towards cutting your labor cost in half. We all have rather fixed ideas of package sizes as we grew up using the tables of frame and ring sizes put out by the machinery builders 30 or 40 years ago when labor was cheap and interest and machinery were relatively high, and these tables have not changed materially in the 40 years that we have been governed by them. Most of us have made "pounds per spindle per week" our goal and have bent our efforts to obtain high spindle speed. We are beginning to learn that this is not the way to lower costs. There are two reasons why this is so: power increases roughly as the square of the speed, and pounds per operative is the true goal and not pounds per

MANHATTAN

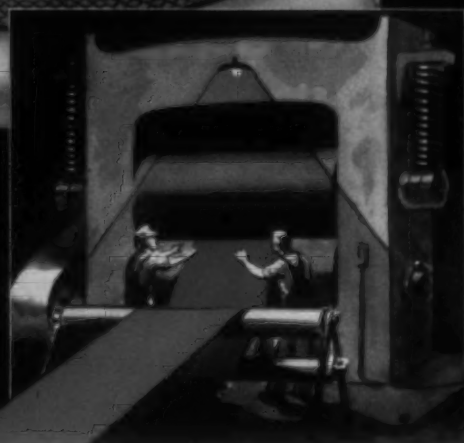


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Examination of the diagram below of ordinary and Condor Compensated Belt illustrates clearly what correctly designed strength members accomplish in performance, longer life and notably lower ultimate cost of power transmission. It is an economy which extends beyond the belt itself, to bearing and machine and to uninterrupted production.

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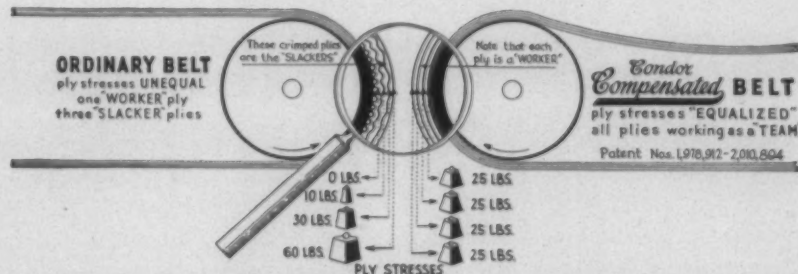
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Compensated Belt	Water Hose
Transmission Belt	Chute Lining
Belts	Lauder Lining
Hose	Industrial Brake Blocks and Lining
Contractors Hose	Molded Rubber Goods
Hose	Rubber Lined Tanks
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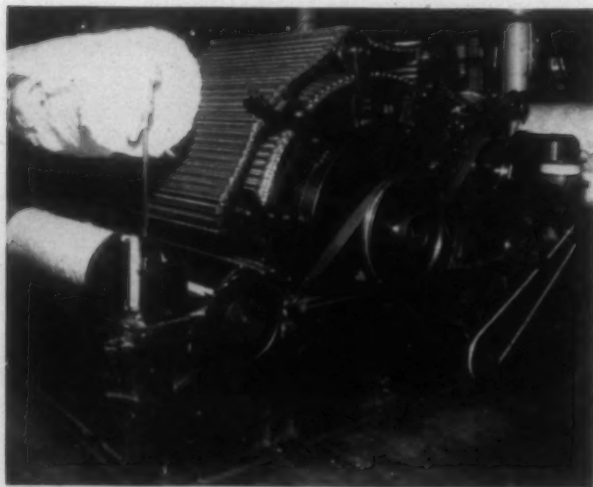
THE MANHATTAN RUBBER MANUFACTURING DIVISION
of RAYBESTOS-MANHATTAN, INC.

spindle. Increasing spindle speed does not cut the cost of doffing, spinning or spooling. It does increase power, wear and ends down. The advantage gained is that with a given number of spindles, if speeding up increases total production, the increased production cuts all overhead costs and the net savings while not shown in the spinning room, are considerable. If space can be found, it would be much better to hold the speeds down and add the few per cent more spindles needed to give the required production. A well-known company in the South cut spindle speeds in one of its small plants 15 per cent and increased the spinners' work load 40 per cent. The speed had been put up too high for good running. A weekly profit was shown of approximately \$240 after charging off the interest and depreciation of the 15 per cent extra spindles. This was a three-shift operation and the labor situation was greatly improved by the change.

The ring and traveler are still the limiting factors in spinning speeds and as long as this is true, it follows that to reduce labor cost by going to larger packages it will be necessary to reduce spindle speeds. The small increase in interest and depreciation on a few extra spindles is lost in the savings in doffing, winding and knots in weaving. If it were possible to spin all numbers of yarn on one-pound packages without too great a sacrifice of speed, it would do for cotton spinning what the Draper loom did for weaving. As spinning drafts are increased, coarser rovings are required and larger size frames can be used, thus reducing the number of packages handled and the cost of making roving and creeling spinning. In laying out new plants and changing old ones, it could be very profitable in many cases to make rovings on roving frames larger than recommended in tables made 40 years ago for different conditions from those that exist today. It would take a few more spindles, but what of it when you consider the relation of labor cost per pound to interest and depreciation.

Can Some Operations Be Eliminated?

Most modern mills today have one-process picking, one-process carding, one or two-process drawing, one-process roving, and long draft spinning. We can't eliminate spinning, carding or picking. We might eliminate drawing, but our yarns would suffer from lack of parallelization and uniformity. We might eliminate roving, and it has been



Better preparation, including improved operation of cards, is another item Mr. Gwaltney suggests may be developed in seeking a reduction in costs.

done, but our cost would soar. There is some possibility that a drawing package other than a can could be worked out, but the saving, if any, would be small and more than likely offset by poorer quality. So it seems we have about exhausted the possibilities of reduction of processes. In fact, it could well be that the introduction of a process could reduce cost. In warping, for instance, it is possible to warp from a spinning bobbin, but a great reduction in cost is made by adding the extra process of spooling. So it would seem that reduction of processes has little to offer.

After examining the four obvious ways of reducing cost, it appears that the first, better preparation, and third, larger packages, offer to those modern mills with long draft spinning and one-process roving the most promise in still further reducing the cost of spinning yarn.

It is possible by using machinery offered by the builders today to reduce greatly the costs of producing yarns. I was told by the president of one of our largest and most profitable textile corporations and one that has probably more large package machines than any other, that it was one of the best investments they had made and one that paid for itself in a very short period of time. And they threw out what would be considered good spindles by the average manufacturer, to go to larger packages.

Too Much Is Taken for Granted

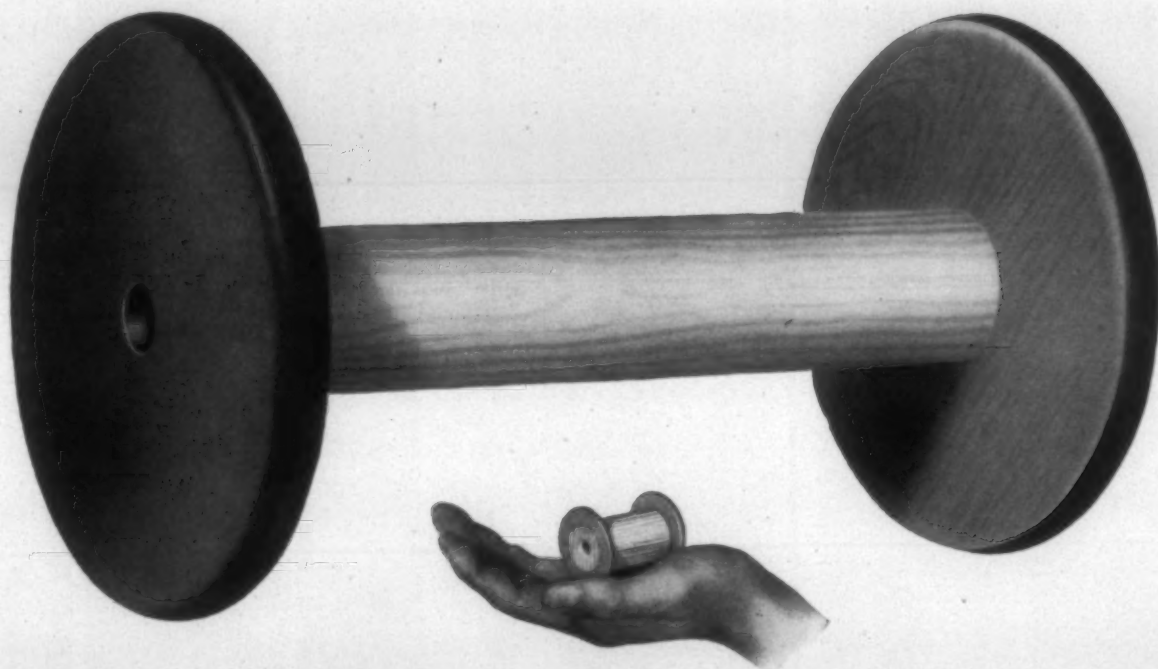
Most of us live so close to our industry, we often fail to subject it to as close and as critical an analysis as changing times and advances in knowledge and progress in other arts would justify.

Our industry is the oldest in the world. It was the first to be organized on the so-called factory system. Our processes closely resemble those of the originators who labored in the days before Watt invented the steam engine, Priestley discovered oxygen, or Faraday experimented with electricity. The change in the method of forming a thread from the old spinning wheel to the rollers of Wyatt and Paul was an amazing departure from accepted practice. We have made no great progress in principle from this form of roll drafting throughout the years though we have improved the control of the fibers by use of belts and other means of getting the bites of Wyatt's rollers closer. The front roll that does the drafting is substantially the Wyatt roll. One of the most helpful things I have heard recently was a statement made by Earl Heard, who at the time was dean of the Philadelphia Textile School. He said he was going to make his students of spinning start in producing yarn by the methods used by primitive man. We have all accepted the principle of roll drafting so long as we refuse to let ourselves think of any other way.

On the other hand, our present processes are the result of almost 200 years of evolution. In spinning it is not good enough to be 99½ per cent good. A loom with one-half of one per cent of the warp threads defective would be stopped practically all the time. As Ball says, "Our machinery is not so remarkable as machines, but we have evolved a technique of operating them that is outstanding in all industry." So, we are handicapped in developing new processes by having also to develop new techniques of operation that will compete successfully with the old. It might well be that the new process would be a real advance and for lack of proper technique lose out in competition. I think this is the reason why competent engineers and de-

(Continued on Page 58)

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REDUCING ABSENTEEISM AND TURNOVER

By G. K. DAHL, Director of Public Information
Labor Relations Institute, New York City

IF YOU wish to reduce absenteeism and turnover in your mill, the first step to take in planning your campaign is to get all the facts. This is the advice put forward by the Labor Relations Institute. According to this organization, the *causes* of absenteeism and high labor turnover are numerous, but most of them are susceptible to correction—once management knows what causes to correct. In addition to telling how to proceed in eliminating such conditions, the institute also recommends the adoption of incentives and awards within the scope permitted by wage and salary stabilization.

Reports on individual absences are important because they enable the employer to spot the trends as they develop. Institute field men have observed that different types of absenteeism run in waves—as when a sudden rumor, however baseless, sweeps through a mill. It may deal with drastic cut-downs of civilian production due to material shortages, or with the approaching termination of a Government contract, and the employees who hear it (and spread it around) naturally conclude that they would be better off on some other job. That is why detection of rumors and their prompt refutation are so important in maintaining employee morale. Other trends may indicate that other plants are attempting to lure away your workers or—more serious still—may reveal a flaring up of resentment against certain supervisors' treatment of their subordinates.

Absences Should Be Explained

Naturally, you can't spot a trend until you have the individual data—and the institute suggests that it be obtained through taking up the absent worker's time-card and replacing it with an "A. W. O. L." notice telling the returning employee where to go to get his card when he returns to work. When he applies for it, he has to submit to an interview by a mill executive or a committee of fellow-employees (and the latter is the harder of the two for him to face). After due admonishment, his reasons for the absence are requested, and the facts recorded for future reference.

Naturally, this procedure is not followed in cases where the absence has been excused—and the institute warns against the common mistake of lumping *all* types of absenteeism into one category. Actually, its record on the subject show, the problem is seen in its proper perspective when the *unexcused* days off are separated from those due to such causes as illness certified by a physician, death in the worker's family, draft board calls, jury duty—and even suspensions and vacations.

When the facts are in, the institute points out, management may discover that conditions *in the plant* are the cause of many lapses. Excessive noise, inadequate illumination, stale air, general disorder—these weigh heavily on women workers, and most men will admit that they are at least partially allergic to such conditions. Both men and women suffer ill effects from improper nutrition, and a plant cafeteria is one of the best morale builders known. Too much stress cannot be laid on sanitation and safety, and a general health campaign urging workers to eat properly, bathe frequently and get enough sleep usually pays extra dividends.

Impractical Working Hours

Long working hours are a frequent cause of absenteeism, the institute points out. The most wholesome working schedule—both from the standpoint of production and that of absenteeism—is 48 hours a week. Generally speaking, absenteeism can be reduced as much as 30 per cent by cutting down to 48 hours a week. Too much overtime shows up in the absence chart, for the human body can only do so much before industrial fatigue shuts in. Sooner or later, the impulse to stay away from work (especially with those overtime dollars in one's pocket) becomes overpowering.

Much absenteeism among women workers is due to the conflict between home duties and work—and home wins out every so often. Employers can take corrective measures in the form of day nurseries—either plant or community sponsored—also also by working out the shifts in such a way that every woman worker receives some daylight time to spend with her children. Experiments have shown the value, for instance, of employing women between the hours of nine and three, so that the work-day and the school-day begin and end at the same time. Of course, this is not always feasible, but it is a goal to work toward. Most women like to work on the same shift as their men-folk, so that the family life is not too disrupted. This can sometimes be arranged without upsetting schedules unduly.

According to the institute, both men and women workers often complain that banks and stores, doctors and dentists, barbers and beauty shops, are not open when they wish to patronize them. This condition can be remedied through concerted action on the part of the employers—who can either see that their employees' needs are taken care of through extended hours on the part of retailers or professional men or else make alternative arrangements for cashing checks, getting haircuts and facials, etc., in the plants themselves.

(Continued on Page 62)

MARS PIPES THE TUNE



FASTER . . . FASTER . . . is the tempo of war. Dyers and dye makers are marching to the music of Mars. Busy brains are conjuring new fabrics of natural fibers, man-made fibers and blends . . . speedier methods of applying dyes and finishes.

The results of our research and experience are available to help you solve your wartime technical problems. Working together, we will gain in advance, profitable solutions to post-war problems. E. I. du Pont de Nemours & Co. (Inc), Organic Chemicals Department, Dyestuffs Division, Wilmington, Delaware.

Du Pont Dyestuffs

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY



"E" Award Spotlights Anchor Duck War Record

THE freedom from confusion, delays and bottlenecks in the conversion of Anchor Duck Mills to full wartime production won high praise Feb. 3 from Lieut.-Col. Thomas D. Lewis in his address at the presentation of the Army-Navy "E" award to the Rome, Ga., textile plant and its 1,335 employees.

Colonel Lewis, officer in charge and contracting officer for the textile and cordage purchase section of the Jeffersonville (Ind.) Quartermaster Depot, pointed out that drapery fabrics as well as cotton ducks were produced at Anchor Duck Mills before the war, and when the emergency developed the plant changed over to duck making for the armed forces, maintaining a "high quality of production" and establishing a "truly superb record of performance."



D. D. Towers

Dean Owens, Rome attorney, served as master of ceremonies, and the "E" flag was raised by Miss Grace Strange and J. P. Brown, employees with the longest service records. D. D. Towers, vice-president and general manager of the company, formally accepted the "E" flag. Lieut. A. Sidney Lewis of the Office of Inspector of Naval Materials, Atlanta, Ga., presented "E" pins to Anchor Duck employees, assisted by Corp. George Polyak, a patient at Battey General Hospital at Rome. Tom Fountain, veteran employee, accepted the award in behalf of his co-workers.

Mr. Towers stated that the day would be recorded as one of the most important in the history of the mill. "It culminates the efforts which were begun the summer of 1940 when we started preparations for defense work. At that time three full shift operations were organized so that when the first order was received for cotton duck, placed by the Navy in September of that year, we all made up our minds to try to earn the "E" award. We have worked continuously for this honor ever since, knowing full well that it would not be conferred upon us unless we maintained

the fullest production and kept our house in order. Our ambition has now been realized through the efforts of the men and women assembled here in this room, plus almost 300 from our ranks who are serving in the armed forces.

"Many of you older workers well remember that some years ago when we started here together in 1928 I told you it was my wish that we could make of Anchor Duck the very best mill of all to work in—one that you and I would be proud of. I want to tell you now that I am proud of you, each and every one, and what you have done towards maintaining production and earning this "E" award. Col-



Anchor Duck Mills' Army-Navy "E" is raised.

onel Lewis, in behalf of the men and women of this mill, and the management, I accept this award, conscious in our minds that it has been justly earned. We will fly this pennant as a symbol of the honor you have conferred upon us for past efforts, and we pledge you our continued best

(Continued on Page 53)

S. T. A. Spring Meetings Begin This Month

THE Eastern Carolina division of the Southern Textile Association will hold its spring meeting Saturday, Feb. 26, in the textile school building of North Carolina State College at Raleigh. The meeting will begin at 9:45 a. m. and last until mid-day.

Four topics have been selected by the division's executive committee, and they will be discussed by speakers and members. Dean Malcolm E. Campbell will describe the objectives of the Raleigh textile school and its relation to the textile industry of North Carolina. An outline of research under way in North Carolina mills will be given by G. H. Dunlap, the school's research supervisor. Other topics will be effect of twist on the breaking strength of single yarns, and methods followed to make a job easier and safer when instructing new and old mill employees.

On March 4, a week following the Eastern Carolina

meeting, members of the Southern Textile Association's Piedmont division will gather at the Charlotte (N. C.) Hotel. Chief topics will be long draft spinning and the processing of synthetic yarns. E. C. Gwaltney, director of research for Saco-Lowell Shops, will lead the discussion of long draft spinning, and F. S. Culpepper of the American Viscose Corp. textile research department at Marcus Hook, Pa., will handle the discussion of synthetics. Representatives from other textile machinery and rayon manufacturing plants will also be on hand.

Other divisional meetings of the association are scheduled as follows: South Carolina (weavers' group), March 18 at Spartanburg; Northern North Carolina-Virginia, March 25 or April 1 at Danville; Master Mechanics, April 6 at Charlotte; and Gaston County, April 14 at Gastonia, N. C.

THE ROLE OF CHEMISTRY

In the Development of Textiles

NO. 1 OF A SERIES

THE POOR APOTHECARY with a great idea



The Eighteenth Century was a century of ideas. In cafes along the Seine, in taverns and parlors throughout the American Colonies, ideas were being shaped, destined to change the world.

Carl Wilhelm Scheele, Swedish apothecary and chemist, was a man of ideas... with research as his vocation, his pleasure, his way of life. Many of his experiments bore fruit—such fruit, indeed, that Scheele did more for cotton printing than any other one man.

Working in a dingy, badly equipped pharmacy, he discovered chlorine in manganese ores. This discovery, in the hands of the Berthollets, father and son, was translated into the modern processes used to bleach all cellulose fibers.

The invention of the copper roller, by Thomas Bell, in 1775, is generally thought of as the beginning of modern printing, but without Scheele's work this printing process could not have been put to practical use.

Before his time, printed cotton was a luxury beyond the reach of the average person because the bleaching process alone took from four to six months. Thanks to Scheele, the bleaching was done in two to six hours, and every pretty girl, however poor, could deck herself out in a gay printed cotton frock.

Carl Wilhelm Scheele, true citizen of his enlightened century, died in 1786, at the age of 44. He was poor all his life—but he left the world richer.

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*Manufacturing Chemists for the Textile Industry. In peace and war,
our products are always on the job improving the finish of yarns and fabrics.*

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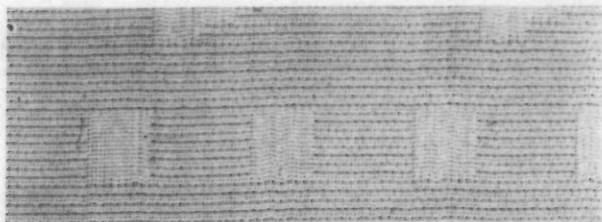
By THOMAS NELSON, Dean Emeritus of the Textile School,
North Carolina State College, Raleigh

PART TWENTY-EIGHT

In the past two installments Dr. Nelson dealt with double fabric weaves for cotton goods. In this article he discusses the designing of rayon double cloths. His topic in the next issue will be "Making Jacquard Designs on the Dobby."

SINCE the advent of rayon and other synthetic fibers, the application of weave to fabric has become increasingly important. Many of the old weaves have been used and adapted to the changed conditions. Changes have been necessary because of materials used, the size and twist of yarns, construction of fabrics and appearance of the finished goods.

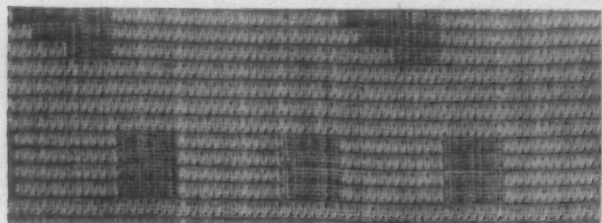
Before rayon became popular the mention of a double cloth weave instantly called to mind a woolen cloth in



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which one fabric was woven on top of the other in the loom, making heavyweight fabrics such as plaid-back woolens. This fabric is constructed by using the three well-known rules in connection with the weaves selected—usually plain, twill, sateen or some simple weave such as a basket. One of the weaves is used for the face, the other for the back fabric.

The rules for combining these weaves are simple and are as follows: (1) on face ends and picks put face weave; (2) on back ends and picks put back weave; (3) on every back pick raise every face end. The two fabrics are bound to-

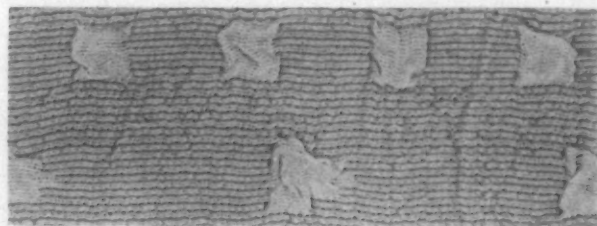


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gether into one by raising a back end into the face fabric or by using an extra end to bind the two together. This

procedure was described in the previous installment. (See TEXTILE BULLETIN for Feb. 1.)

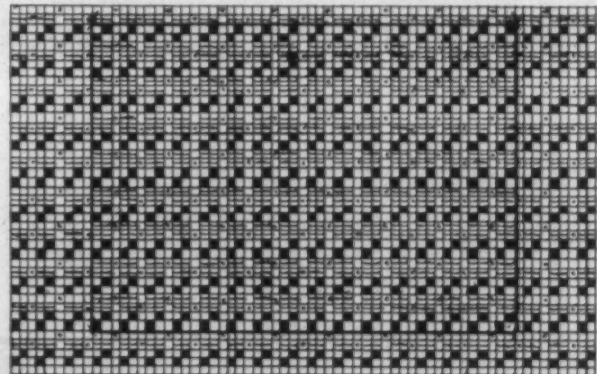
This principle is now used very extensively in the construction of rayon matelasse and blister fabrics. By using the first and second rules a designer is able to construct fabrics the same as double cloth, one woven on top of the



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other, forming a pattern on what might be classed as a plain fabric. This blister effect will not have any binding together except around the edge of the blister or at some predetermined point in the blister.

The blister effect in these fabrics is obtained by the use of rayon crepe yarns, in warp and filling, in combination with low or no twist rayon yarns. The rayon crepe yarns



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interweave with each other to form the back of the figure or blister, with the low or no twist rayon yarns interweaving together to form the face of the figure or blister.

Crepe yarns are used in the warp in the proportion of one crepe thread to two or three low twist rayon threads. The filling is usually arranged two picks crepe yarn to two picks low twist rayon yarn. The crepe warp and filling yarns are made and inserted in the fabric to have the twist in yarn arranged right and left twist, or S and Z twist. By arranging the ends and picks in their proper propor-

A TRIP THROUGH AMERICA'S LARGEST WARP SIZING PLANT



Finished Stock Storage of SEYCO Warp Size Softeners, and Penetrants for immediate shipment.

Bin of several Warehouses to Assure Adequate Supply of Quality Raw Materials for SEYCO Size.



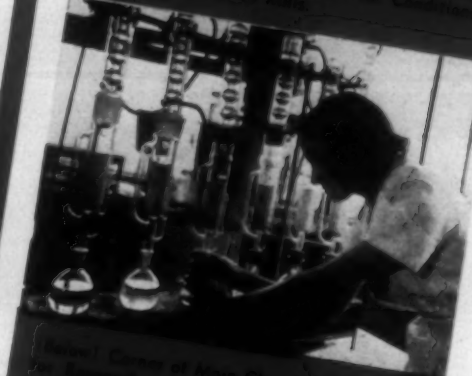
SEYCO Size run down off through filter press (extreme left) into finally washed and filtered down (below).



Warp and Bathe Yarn and Cloth Testing and Analysis under A. T. H. Conditions for Free Services to Mills.



Bathe Chemical Solution Tanks and Run of Size of Reaction Kettles.



General Control of Basic Chemical Laboratory for Research and Control of Raw Materials and SEYCO Products.



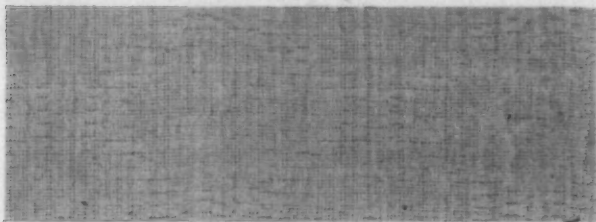
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PENETRANTS • SIZING • SHUTTLE DRESSING • SOFTENERS • ALKALIS
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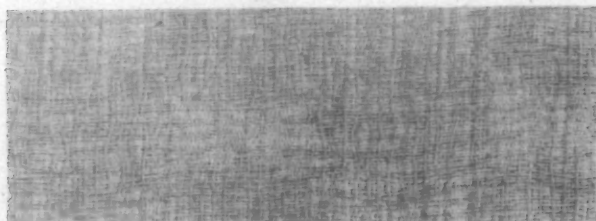
tion and by having certain ends and picks weave with each other, as for example crepe filling with crepe warp, low



366

twist rayon filling with rayon warp, unique effects are produced in the finished fabric.

The accompanying illustrations demonstrate the effect of combining rayon yarns to form a figure in the fabric: Fig. 362 illustrates the face of a matelasse fabric. Fig. 363



367

illustrates the back of this fabric, which shows clearly how the crepe yarns weave with each other at back of figure. Fig. 364 illustrates this fabric after being immersed in ordinary plain water. Fig. 365 illustrates design for the square figure in fabric, indicated by heavy line around the design.

It will be noticed that the first two rules have been used in forming the figure, the body of fabric weaving plain, as follows: face weave plain in solid squares; back weave plain in dots; on back picks, face threads raised are indicated by a dash. The threads are arranged as follows:

Warp—one rayon crepe S twist, two rayon (acetate) low twist, one rayon crepe Z twist, two rayon (acetate) low twist.

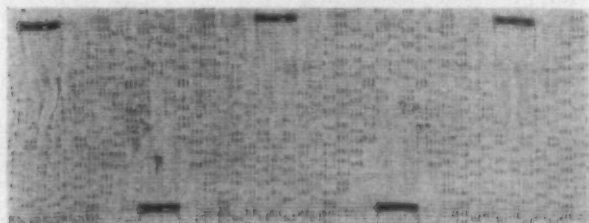
Filling—two picks rayon crepe S twist, two picks rayon (acetate) low twist, two picks rayon crepe Z twist, two picks rayon (acetate) low twist.

In making these fabrics the different rayons are tinted so as to be readily identified and prevent mixing of the yarns. The tinted dyes used will wash out in finishing the fabrics.



368

Fig. 366 illustrates another matelasse fabric constructed on this principle showing face of fabric. Fig. 367 illustrates the back of fabric. Fig. 368 illustrates the fabric after being immersed in ordinary plain water. Fig. 369



369

illustrates a matelasse fabric constructed on this principle with two picks of tinsel added as a further embellishing effect.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

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L. J. CASTILE
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*"Why shouldn't I
buy it?
I've got the
money!"*

Sure you've got the money. So have lots of us. And yesterday it was all ours, to spend as we darn well pleased. But not today. Today it isn't ours alone.



"What do you mean, it isn't mine?"

It isn't yours to spend as you like. None of us can spend as we like today. Not if we want prices to stay down. There just aren't as many things to buy as there are dollars to spend. If we all start scrambling to buy everything in sight, prices can kite to hell-'n'-gone.

"You think I can really keep prices down?"

If you don't, who will? Uncle Sam can't do it alone. Every time you refuse to buy something you don't need, every time you refuse to pay more than the ceiling price, every time you shun a black market, you're helping to keep prices down.

*"But I thought the government put a
ceiling on prices."*

You're right, a price ceiling for your protection. And it's up to you to pay no more than the ceiling price. If you do, you're party to a black market deal. And black markets not only boost prices—they cause shortages.

"Doesn't rationing take care of shortages?"

Your ration coupons will—if you use them wisely. Don't spend them unless you have to. Your ration book merely sets a limit on your purchases. Every coupon you don't use today means that much more for you—and everybody else—to share tomorrow.

*"Then what do you want me to do
with my money?"*

Save it! Put it in the bank! Put it in life insurance! Pay off old debts and don't make new ones. Buy and hold War Bonds. Then your money can't force prices up. But it can speed the winning of the war. It can build a prosperous nation for you, your children, and our soldiers, who deserve a stable America to come home to. Keep your dollars out of circulation and they'll keep prices down. The government is helping—with taxes.

*"Now wait! How do taxes help
keep prices down?"*

We've got to pay for this war sooner or later. It's easier and cheaper to pay as we go. And it's better to pay more taxes NOW—while we've got the extra money to do it. Every dollar put into taxes means a dollar less to boost prices. So...

*Use it up . . . Wear it out . . .
Make it do . . . Or do without*

**HELP
US
KEEP**

PRICES DOWN

A United States war message prepared by the War Advertising Council, approved by the Office of War Information, and contributed by the Magazine Publishers of America

Planned and Co-ordinated Textile Research For the Future vs. Previously Isolated Activity

—ANONYMOUS—

A GROUP of textile officials recently were discussing the merits and demerits of initiating a general research program for the textile industry and its many ramifications. These men all agreed that the textile research programs now being planned must be made durable through flexibility and complementing and supplementing of the different programs so that they will achieve a unity of purpose without overlapping; otherwise the results and benefits to be derived from these research programs may be lost through economic pressure in the future.

Norman Elsas of Fulton Bag and Cotton Mills at Atlanta, Ga., wrote a very forceful and timely editorial in *TEXTILE BULLETIN* of Oct. 1, 1943, that tersely discussed the potential possibilities which the right kind of planned research programs may evolve for the textile industry of the future. This short editorial was pertinently written and possessed many thought-provoking ideas.

The writer, in discussing this editorial with several textile and industrial management officials, has found a strong sympathetic attitude and interest developing for planned research programs financed through co-operative non-governmental groups. These men expressed themselves as having a degree of distrust for the many self-proclaimed research experts with their so-called programs who have arisen and are trying to "horn in" on the publicity now being given research activities. As one official expressed it, there are as many kinds of so-called industrial research ideas being offered as there are different brands of vitamins on radio broadcasts.

What Has the Past Produced?

These remarks are repeated only on a constructive basis and to assist the reader in analyzing the history and accomplishments of the recent past's real research leaders. There were several sentences in Mr. Elsas' editorial that are aptly descriptive of the present period in the textile industry as well as many other industries—

"Education is useless, without practical application. . . . Research is useless, without practical application. . . . Unfortunately, competent manufacturers in the textile field have devoted little of their energy and thinking to either of these most important basic matters. Research, properly directed and applied, will make present textile manufacturing quite obsolete.

To the two last sentences may be added that unfortunately leaders in other Southern industries have been just as neglectful in devoting a portion of their time and energies to helping develop real research programs in many industries that could be highly benefited from such work.

What makes great research leaders? Many a writer and speaker has tried to define what are the essential needs of a person to become a successful research leader and they usually end up with a list of requirements that only a "second Edison" could meet. They leave out the essentials that are very vital if a man is to be successful in carrying through the vast research programs now coming into actual realization in North Carolina, South Carolina and Georgia for the benefit of the textile industry as a whole. These essential requirements may be listed as:

First, a crusading zeal to do the job and to inspire all workers with that zeal.

Second, keep the program flexible and be open-minded.

Third, run the program in the interest of the industry and not for selfish ends.

Fourth, be human; take suggestions, use them, but give credit to the party supplying them.

The writer was privileged in having known the three men named in this article as examples of great research leaders. They were possessed of great zeal and every person associated with them during their life work felt their leadership, as the entire South has greatly benefited from their work. They were leaders working in isolated localities but they managed to do tremendously broad jobs that are showing results.

Herty and Carver

The South has been fortunate in seeing in our generation these "giants" among men intellectually, and their desire to help man through their devotion to research and the entire South is being surrounded with the results of their great endeavors. These men did not have large technical staffs or many thousands of volumes in a library; they were trained to plan and work through a problem and to make observations count as much as the achieving of their main goal. Two of these leaders were Dr. Charles H. Herty of Savannah, Ga., and Dr. George Carver of Tuskegee Institute, Ala. The South owes a debt of gratitude to these scientists who possessed real research ability and ideas of putting them into practical application.

Dr. Herty, through patience and great financial sacrifice to himself, developed the process of making newspaper pulp from the waste loblolly pine lands of the South. There are now established in a majority of Southern pine-growing states large paper plants now processing newspaper print paper, and when the wartime demands cease there then should be many new paper plants built for further utilization of the loblolly pine of the South. Dr. Herty's vision, plus his zeal to develop this industry from pine, was to help the agricultural interests of the South supplement

their cotton, corn and stock raising with proper planning and tillage of sufficient wasteland acreage and the pine produced to be used in industrial processes.

In raising pine trees for this new industry, Dr. Herty won out through his zeal and belief, though he had to overcome the immense economic opposition of Canadian, Northern and Western pulp mills. He did this and converted them to his manufacturing beliefs which many consider a miracle.

Dr. Carver, son of a negro slave, educated himself at the State College of Iowa, then went to Tuskegee Institute, and realizing that the impoverished white and negro farmer's greatest need was a development of uses for agricultural products that could be grown profitably.

Dr. B. B. Ross of Auburn, Ala., helped the South through his research development work on sugar chemistry in Louisiana and cotton seed oil and its products. He is the third Southern scientist who accomplished much good for his section of the United States.

These are only a few of the pioneers in isolated research work on what must now be carried on through planned programs that should help to improve the economic conditions of textile and other industries.

Ideas Never Realized

There are cases of present-day textile research workers who have helped inaugurate splendid specialized research programs that possessed real possibilities but were stopped short of any worthwhile practical accomplishment.

Another idea that Mr. Elsas brought out was the possibility of a resin being discovered and textile machinery being perfected whereby useful textile fibers might be spun in mills such as now are being spun from molten glass into

useful fibers for textiles and insulations. He asks the question—could there not be a resin discovered and made from the entire cotton seed, plant, stalk, bolls, fibers and all. To partially answer this query, there has been some excellent ground work prepared by Dr. A. R. Macormac while working on the white cotton project sponsored by the University of North Carolina. Lack of funds and sufficient interest among agricultural and industrial leaders allowed this potentially valuable research program to be stopped, thereby cancelling potential research that would have probably aided the cotton grower of the South as well as the textile and chemical industries.

Not only does the possibility of utilizing the entire cotton stalk appear quite practical and feasible, but there are many possible by-products that would possess value to the chemical industry if produced on a large scale basis.

Two Starch Projects

During the 1920's and 1930's there were two attempts made to put the manufacture of starch and other by-products sweet potatoes on a commercial basis. Two plants were started in Louisiana and Mississippi. The first project was largely promotion without sufficient research and development work to carry it through for a commercial success. The one at Laurel, Miss., was a plant promoted by several governmental agencies during 1932-34 in co-operation with a group of agricultural interests at this locality. Their equipment was not of the best for manufacturing the best qualities of starch and proper recovery of by-products; though there was quite a bit of excellent data gathered from agricultural sources on the best species of sweet potatoes to grow for yielding the highest percentage of starch

(Continued on Page 54)

RESEARCH THE KEY TO TEXTILE FUTURE

Research is the one sure prediction in an otherwise unpredictable year in textiles, stated Douglas G. Woolf, first vice-president of the Textile Research Institute, Inc., in the January issue of *Textile Research*, published by that organization. Its growth in 1944, and beyond, is absolutely assured, he adds. That is why a new interest in research is sweeping the industry.

"It is impossible to over-emphasize the significance of those technical developments in textiles which were in the making prior to the war, and of those which have grown out of the research on military textiles. Probably the most important is in the direction of what has been called 'The Battle of the Fibers.' Possibly second in importance to technical development in raw materials is the emphasis which has been placed on research in the direction of new finishes. This was already well under way before the war; it has been greatly accelerated by war-time research to meet the needs for durability under unprecedented conditions. The safest way is to maintain a completely open mind as to the trend of textile finishes after the war. Particularly is it desirable to avoid the feeling that the utilization of any particular

type of finish can be postponed until there is a public demand for it.

"Probably the third major zone of post-war changes will be in the field of textile equipment, and auxiliary equipment sold by general companies to textile mills. Major changes in existing textile equipment may well be delayed beyond the period of active utilization of new fibers and new finishes. There will be the immediate problem of reconversion of many textile machine shops from a wartime to a peacetime basis. However, here too there can be no complacency about the future. It has often been pointed out that much of the standard textile equipment does not represent mechanical perfection, to indulge in under-statement. Trends toward by-passing the spinning frames and the loom were already in existence in isolated cases before the war. It would be a fallacy to imagine that such attempts will be abandoned in the post-war period.

"Less predictable than the era of technological change, as to its trends, but certainly not less inevitable, is the era of economic change which faces the textile industry. In the long-range view there are these factors: our position in world textile trade, and the competition

among specific industries themselves not only for the textile markets but for an increasing share of the consumer's dollar. In addition there will be the problems involved in new productive efficiency reached during the war, in multi-shift policies, in the replacement of manpower by labor saving devices, in the financial problems growing out of the large public debt, possible inflation, and the need for corporate reserves to meet modernization demands. In fact, it seems almost certain that the economic problem will be greater than the technical problem after the war. Emphasis during the last few years has been on technological improvement and on reaching new methods of production effort. Major emphasis after the war may have to be placed upon intelligent utilization of these new facilities, benign themselves but potentially malignant in their abuse.

"It does no good to point to unlimited production and unlimited world demand unless the two can be synchronized. Synchronization lies through the utilization of both technical and economic research, and through the relation of one to the other, to meet currently the problems as they arise and to plan for the future."

Varied Length "Fibro" for Worstededs and Woolens

By ROBERT A. SMITH

Textile Research Department, American Viscose Corp.

THE distinguishing feature of varied staple length "Fibro," manufactured by American Viscose Corp., is the fact that it is cut in such a manner that, in fiber length dispersion, a rayon top made from it closely resembles a worsted top. The accompanying illustration shows the comparison between tops made from straight five-inch "Fibro," three and one-half-inch to six-inch varied length "Fibro" and wool. The controlled non-uniformity of length, and particularly the absence of short fibers in the varied staple length "Fibro" is evident.

An observation of any one grade of wool reveals that it contains a range of fiber lengths. This has always been considered a disadvantage by worsted manufacturers and we agree with them, but only in one particular. It is a decided handicap if the staple diagram shows an *excess* of short fibers in combination with longer ones. The wool diagram shown in the illustration does not show an abundance of short fibers, but from the standpoint of spinning even yarns it would be better if the fibers between A and B were not present. Note, however, that even if these shorter fibers were eliminated, the remaining ones would not be of uniform length. We consider this an advantageous feature.

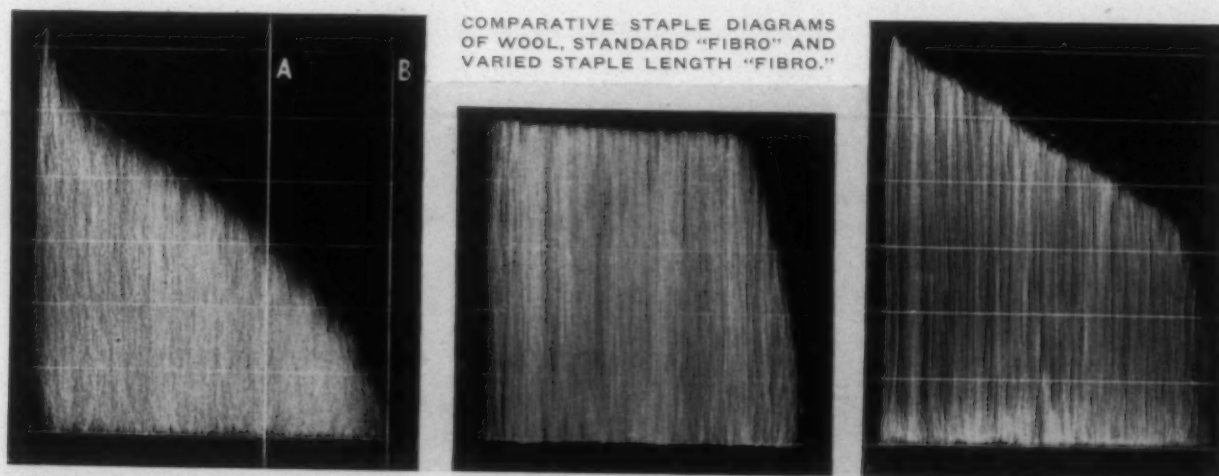
Many manufacturers have made experimental yarns by very carefully sorting wool and selecting only the longer fibers and have thus been able to spin superior yarn. That is understandable, but we wish to point out that no one could sort carefully enough to get a diagram in which the fibers were all one length. A sloping diagram would still result but one in which very few short fibers (such as those between A and B) were present. This very point, *controlled* non-uniformity of length, we believe, is the reason for the successful experiments with carefully selected wool.

Our reason for this belief is further strengthened by the results of spinning experiments conducted with rayon top of uniform length compared with top of the new varied staple length rayon fiber. In both cases, the rayon top was white and each was blended 50/50 with the same lot of black wool top. This contrast allowed us to study the blending that followed each operation.

The thoroughness of blending was in favor of varied staple length in every operation, and the final proof was strikingly demonstrated in fabrics containing each type of rayon. In addition to thoroughness of blend, the yarn containing varied length rayon was of more uniform diameter and resulted in lower burling and mending expenses. These features have been substantiated by customers who are regularly using our varied length "Fibro."

At present Bradford spinners can be supplied with 5.5 denier bright or dull lustre in three and one-half to five inches or the same in three and one-half to six-inch descriptions. The price of these improved staples remains the same as that for staple fiber of uniform length.

Woolen manufacturers are also finding advantages in the use of varied length "Fibro." A stronger yarn is produced due to the more even spin. These effects are of course a direct result of the better blending feature of varied length "Fibro." Due to better yarn production, the spinning and weaving efficiencies in woolen mills have shown marked improvement. Further work on development of the best range of lengths for the woolen system is under way. The American Viscose textile research department has offered to work in conjunction with any mill that wishes to investigate, at first hand, the benefits to be derived from the use of varied staple length "Fibro."



At left, 60/62's oil combed worsted top; center, 5.5 denier five-inch dull "Fibro" top; at right, 5.5 denier three and one-half to six-inch bright "Fibro" top.

Production of Textiles for War and

Essential Civilian Needs Must be Maintained but

Holding your operatives is a Big Problem

Every Possible Handicap to your

Workers Must be Avoided



D

One Kind of Trouble

You can Avoid is the Use of Mongrel Repair Parts
Draper-made Parts Help out your Fixers—both new
and old hands—by making it easier to keep the
Looms properly set to Run Efficiently

DRAPER CORPORATION

MILL NEWS

SPARTANBURG, S. C.—A state charter has been granted to Raycord, Inc., a textile firm proposing to operate with a listed capital of \$120,000. Officers of the concern are V. M. Montgomery, president and treasurer, and Benjamin O. Johnson, secretary. Incorporators are listed as Robert Z. Cates and Mr. Johnson.

MACON, GA.—Bibb Mfg. Co. and its employees have purchased more than \$9,000,000 worth of bonds in the four war loan drives, according to an announcement by Macon banking officials. The company subscribed to \$1,000,000 in the most recent campaign.

DANVILLE, VA.—An unprecedented tribute was paid to the Riverside & Dan River Cotton Mills, Inc., organization at a recent dinner sponsored by the Danville Chamber of Commerce. For nearly three hours the audience of over 250 business men heard a program which detailed the company's operations and record. George S. Harris, president, was one of the chief speakers. Mr. Harris and other speakers described changes and conversions at the company plants which have conditioned the large textile manufacturing company for current and post-war operations.

SPARTANBURG, S. C.—Arkwright Converting Co. has received a state charter to do bleaching, dyeing, finishing, mercerizing, printing and stamping of textile products. Officers of the firm, capitalized at \$10,000, are listed as MacFarlane L. Cates, president and treasurer, and Robert Z. Cates, vice-president and secretary.

ELKIN, N. C.—The latest issue of *Chatham Blanketeer*, published by Chatham Mfg. Co., was dedicated to the encouragement of safe working practices in the company's plant. Special attention was directed to records made by the wool room, which has been free of accidents since April, 1941, and to Daniel Woodruff, an employee with a 48-year record of accident-free work.

WARE SHOALS, S. C.—Ware Shoals Mfg. Co. has registered with the Securities and Exchange Commission 10,000 shares of five per cent \$100 par value cumulative preferred stock to be offered to common shareholders on the basis of one for each current five. Proceeds will be used to retire 9,725 shares of seven per cent preferred stock at \$105 per share plus dividends. The difference between the proceeds and the \$1,021,125 needed for redemption will be supplied from the company's treasury and from funds to be borrowed from Central Hanover Bank & Trust Co. of New York City.

SPINDALE, N. C.—Major details of a recapitalization plan for Stonecutter Mills Co. were revealed recently by Kenneth Tanner, president and treasurer. The firm is splitting its capital stock on a basis of 80 shares of newly-created Classes "A" and "B" for each outstanding capital creases the company's capital stock to \$1,862,800.

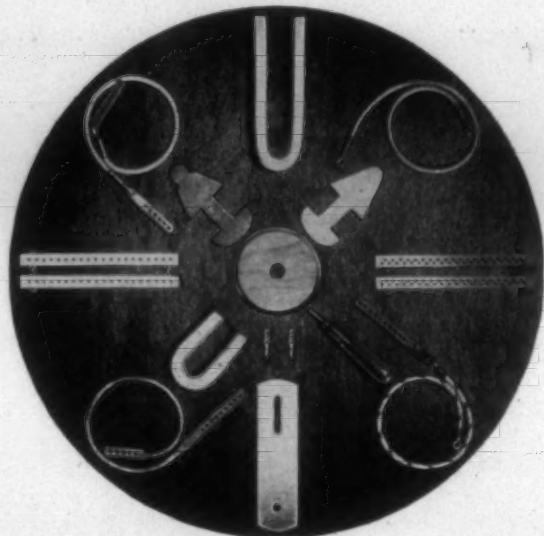
PACOLET, S. C.—Pacolet Mfg. Co. has sold \$1,000,000 in 3.5 per cent notes due Nov. 30, 1958, to two insurance companies. The sale was made privately through Kidder, Peabody & Co. The proceeds are to be applied to the retirement of \$1,000,000 par amount of seven per cent preferred stock. Giving effect to the current financing, the outstanding capitalization will consist of \$1,000,000 of 3.5 per cent notes due in 1958, \$500,000 of preferred stock and 100,000 shares of common stock.

ROANOKE, VA.—Forty-one employees of the American Viscose Corp. plant at Roanoke were guests at a banquet given recently in honor of their 25 years of service with the corporation. Service pins were presented to each one by Frank H. Griffin, vice-president and technical director of the corporation. Mr. Griffin, in presenting the pins, said that all American Viscose employees were bound by a common bond—a bond of achievement. "Your years of service with our company singles out each of you as a settled citizen, one who is reliable and trustworthy," he said. LeRoy H. Smith, manager of the Roanoke plant, was toastmaster and introduced Mr. Griffin and Dr. Harry B. Stone, who has been medical advisor for the Roanoke plant on eye, ear, nose and throat cases for the past quarter century.

MAIDEN, N. C.—Officials of Carolina Mills, Inc., have announced that W. C. Plunkett & Sons Co., Inc., of New York City has been designated sales agent for the company in the New York, New England and New Jersey markets. The two plants, one at Maiden the other at Newton, N. C., manufacture high-grade carded cotton yarns for plush, upholstery, narrow fabrics and kindred lines.

MT. HOLLY, N. C.—A report showing continued progress by American Yarn & Processing Co. during 1943, with a more than \$1,000,000 increase in dollar volume of sales, made made by officials of the company at its recent annual meeting of stockholders. Elected directors were Julius W. Abernethy, C. Edwin Hutchison, G. W. Krentler, W. H. Barnhardt, R. S. Dickson, G. G. Gallaway, R. E. Kerr, I. C. Lowe and W. H. Suttentfield. The directors held a meeting after stockholders had adjourned, electing the following officers: Mr. Dickson, president; Mr. Lowe, vice-president; Mr. Suttentfield, vice-president and treasurer; Mr. Hutchison, assistant vice-president; E. F. Redding, assistant vice-president and sales manager; William S. Montgomery, assistant president; I. M. Goree, secretary and assistant treasurer; T. J. Davis, assistant secretary and treasurer; and Miss E. Rozella Abernethy, assistant secretary and treasurer. Mr. Dickson also informed the stockholders that the plants owned by the corporation had been maintained in an efficient condition and that a number of improvements were made during the year. He said that while it is impossible to predict the duration of the war and its full effect on the company's operations, the corporation expects to continue its same close co-operation with the various agencies of the government in giving maximum service to the war effort.

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Southern Representative

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Fitchburg, Mass.

Charlotte, N. C.

PERSONAL NEWS

J. D. Barbee has been promoted from production manager to superintendent of Brookside Mills, Knoxville, Tenn.

Ernest Shumake, formerly connected with the Jefferson Mills organization, has become superintendent of Fickett Cotton Mills, Inc., at Whitehall, Ga.

Minor R. Adams, vice-president and general manager of Parkdale Mills, Inc., has been sworn in as a member of the Gastonia (N. C.) City Council.

Elliott Grover, formerly superintendent of Manville Jenckes Corp. at Manville, R. I., has been appointed head of the yarn department of the textile school at North Carolina State College, Raleigh. Mr. Grover has had wide experience in the manufacture of yarns, and his appointment was made possible with supplemental salary funds provided by the North Carolina Textile Foundation, Inc.

F. B. Galligan is now assistant superintendent of Firestone Cotton Mills, Inc., Gastonia, N. C.

B. W. Bingham has resigned as superintendent of Brookside Mills, Knoxville, Tenn., to become superintendent of Rockford (Tenn.) Mfg. Co.

Thomas J. Culpepper, formerly superintendent of Eagle & Phenix Mills at Columbus, Ga., is now production manager of the Ashland Corp., Jewett City, Conn.

Edwin Morgan, president of Scotland Sheeting Mills, Inc., and Waverly Mills, Inc., Laurinburg, N. C., has been appointed to a one-year term as a trustee of the North Carolina Sanatorium for the treatment of tuberculosis.

O. F. Nixon, Jr., president and treasurer of Industrial Supplies, Inc., LaGrange, Ga., has gone on active duty as a lieutenant (j. g.) in the United States Naval Reserve. John S. Dodd will be in charge of the firm until Lieutenant Nixon's return.

H. T. Leverette has been promoted to general overseer of spinning at Chiquola Mfg. Co., Honea Path, S. C. He was recently chosen a member of the board of aldermen in Honea Path's municipal elections.

B. T. Butterworth, Jr., has become president of Vibration Engineering Co. of New York City and Harry Hayden has been appointed secretary and treasurer of the firm. The company is making plans to expand its activities in the industrial field where need of engineered vibration control is apparent.



The model shown above is wearing one of the currently popular chenille robes manufactured of cotton. (Photo by courtesy of chenille chemicals division, Burkart-Schier Chemical Co., Chattanooga, Tenn.)

Ernest Johnston has been transferred from Sylacauga, Ala., to the Mary Ann plant of Avondale Mills at Stevenson, Ala., where he is general plant overseer.

Lieut.-Comdr. Thurmond Chatham, U. S. N. R., on leave as president of Chatham Mfg Co., Elkin, N. C., is currently being promoted by North Carolina newspapers for the post of Secretary of the Navy. Commander Chatham has seen recent action in the Southwest Pacific theater of war.

A. J. Maguire, credit manager of American Viscose Corp., has been re-elected president of the Rayon Yarns Credit Association and Charles Everett of E. I. du Pont de Nemours & Co. has been elected vice-president. John J. Burke of Tubize Rayon Corp. has been re-elected treasurer. Mr. Maguire and Jack Epstein of Malina Co., Inc., were elected to two-year terms on the association's board of governors. Other members of the board, each with one year more to serve, are Mr. Burke, John E. Chambers of Celanese Corp. of America, Mr. Everett, George Richter of Skenandoa Rayon Corp., and H. R. Wiley of Delaware Rayon Corp.

Bryan Wood, sewing overseer of the Oakleaf plant of Callaway Mills at LaGrange, Ga., has been transferred to a similar position at the company's Valway plant.

William N. Banks, president of Grantville (Ga.) Mills, and Cason J. Callaway, a former president of the American Cotton Manufacturers Association, have been appointed as members of the Georgia State Agricultural and Industrial Development Board, which will "formulate a comprehensive blueprint for Georgia's future."

J. Spencer Love, president of Burlington Mills Corp., with textile plants throughout the Carolinas, Virginia and Tennessee, becomes head of the War Production Board's textile, clothing and leather division as it is elevated to the rank of bureau. A. Louis Oresman of New York City will continue as Mr. Love's deputy.

Robert S. Dempsey has resigned as chief of the textile, clothing and shoe machinery branch of the War Production Board. His deputy in the branch has been L. Marshall Newell of the Draper Corp., Hopedale, Mass.

Wesley M. Dyne of Newton, Mass., and Malcolm F. Fryer of Riverside, R. I., have been added to the New England textile sales staff of Borne, Scrymser Co. of Elizabeth, N. J., manufacturers of textile oils and compounds. They will be under the supervision of Austin M. Knight.

Thomas Coyle, chlorine products manager of the electrochemicals department of E. I. du Pont de Nemours & Co., was elected president of the Compressed Gas Manufacturers Association, Inc., Jan. 24, at New York City. Mr. Coyle joined Du Pont in 1930 when the company acquired Roessler & Hasslacher Chemical Co. with which he had been associated 26 years.

Capt. B. Ellis Royal, Army Air Forces, associate editor of TEXTILE BULLETIN on leave until the war's end, recently visited friends at Charlotte, N. C., while en route to a temporary overseas assignment. Upon completion of the assignment Captain Royal will return to his base at Boca Raton Field, Fla.

W. Allen Traver, vice-president and general manager of Franklin Process Co., has been elected president of the Providence (R. I.) Chamber of Commerce.

Charles H. Wood has been elected secretary-treasurer of Consolidated Textile Co., Inc., succeeding his late father, M. H. Wood. The company has manufacturing plants at Lynchburg, Va., and Shelby, N. C.

(Continued on Page 49)

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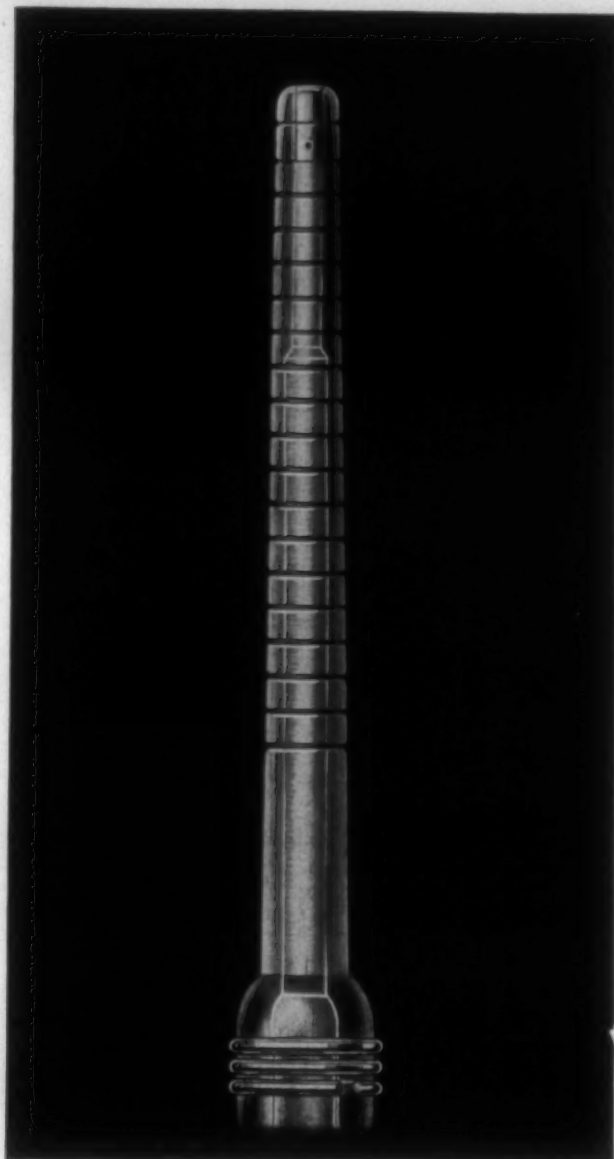
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Contributions on subjects pertaining to textile manufacturing and distribution are requested. Contributed articles do not necessarily reflect the opinion of the publishers. Items pertaining to new mills, extensions, etc., are solicited.

Divisional Meetings Resumed

The board of governors of the Southern Textile Association acted very wisely in deciding to resume its divisional meetings and give members an opportunity to discuss the latest developments in textile manufacturing.

Experience has shown that in spite of the shortage of gasoline people manage to attend conventions and meetings in which they are interested and many conventions report record-breaking attendance.

Some go by train or bus while others group together and use automobiles. The point is that when the meetings are of sufficient interest they get there some how, and not in recent months have we heard of any meeting which had a disappointing attendance.

The superintendents and overseers of Southern textile mills realize, probably more than the officials, that the post-war period is going to bring many problems and they will welcome the divisional meetings of the Southern Textile Association as opportunities to acquire information which will fit them to meet some of the problems which will arise.

The board of governors of the Southern Textile Association has set the following dates for division meetings:

EASTERN CAROLINA DIVISION

D. E. LONG, Oxford, N. C., chairman

Saturday, Feb. 26th, at the Textile School of North Carolina State College, Raleigh, N. C.

Part of the program will feature the newly-elected Dean Malcolm E. Campbell in an explanation of the

expanded program of the textile school, this to be followed with a discussion of spinning problems. There will also be a discussion of the training of operatives.

PIEDMONT DIVISION

B. M. BOWEN, Salisbury, N. C., chairman

Saturday, March 4th, Charlotte Hotel
Charlotte, N. C.

The first portion of the meeting will be devoted to an explanation of the Shaw long draft system. E. C. Gwaltney of Biddeford, Me., will explain the system.

This will be followed by a lengthy discussion of spinning cut fibers. The American Viscose Co. is sending F. S. Culpepper, one of its experts, to explain the best practices in spinning rayon and to answer questions. It is also probable that representatives of other rayon companies will assist by taking part in the discussions.

It is undoubtedly true that after the war many mills will shift from cotton to spun rayon, and this meeting is designed to provide those in attendance with the best information available. Some mills which now have no idea of spinning anything but cotton will, in our opinion, find themselves forced to use cut fibers, and this is an unusual opportunity for their superintendents and overseers to acquire advance information.

SOUTH CAROLINA DIVISION

W. W. SPLAWN, Pelzer, S. C., chairman

Saturday, March 18th, Cleveland Hotel
Spartanburg, S. C.

The program for this meeting has not yet been arranged but will be devoted to carding and spinning problems.

It will probably be followed by a second meeting which will be devoted to weaving.

MASTER MECHANICS DIVISION

R. F. NICHOLS, Newberry, S. C., chairman

Thursday, April 6th, at the Charlotte Hotel
Charlotte, N. C.

The Master Mechanic meetings are always interesting and this will be devoted to developments made during the war in "metallizing," that is, building up worn parts by spraying with molten metal and then tooling down to tolerances, at one time believed impossible. Examples of such work will be shown and methods explained.

NORTHERN N. C.-VIRGINIA DIVISION

T. C. PEGRAM, Cooleemee, N. C., chairman

No announcement has yet been made about the meeting of this division in late March or early April at Danville, Va. It is composed of a very able group of manufacturers and their meetings are always interesting.

Textile School Making Progress

Progress is being made by Dean Malcolm E. Campbell in setting up a strong staff at the textile school of North Carolina State College at Raleigh.

The college was enabled to secure Dean Campbell through a salary supplement provided by the North Carolina Textile Foundation, Inc., and by similar supplements Dean Campbell has been put in position to acquire outstanding men.

G. H. Dunlap, formerly with the Cotton-Textile Institute, but before that with the Southern Textile Association and the Arkwrights, was employed for practical research and spends most of his time supervising tests in mills.

One of the most prominent cotton manufacturers spoke to us recently in very complimentary terms relative to the work which Mr. Dunlap did at his mill.

Elliott Grover, a graduate of M. I. T. and for a number of years superintendent of one of the fine yarn mills of the Manville-Jenckes Co. in Rhode Island, has been employed to take charge of the yarn manufacturing department of the textile school and will report early in March.

The superintendent of one of the mills of an outstanding and nationally known manufacturers of hosiery has been to Raleigh and is now considering an offer to take charge of the knitting department.

Men of equal ability are being considered for other positions with the certainty that the North Carolina Textile Foundation, Inc., will provide whatever salary supplement is necessary to acquire the best available.

Within a few months there will be several members of the staff of the textile school who receive higher salaries than the head of State College, but that is entirely satisfactory to Dean of Administration J. W. Harrelson, as he wishes to see the strongest possible staff established at the textile school.

Similar strengthening of the staffs of textile schools at Clemson College and Georgia Tech are now in progress, but not yet quite as far advanced as at N. C. State College.

In a comparatively short time there will be three textile schools, each with a staff of outstanding textile manufacturers, and that is going to mean much to the future of the textile industry of the South.

The Fate of Japan

Every few days somebody comes forth with a statement about the ultimate fate of Japan.

One says that Japan will be brought to defeat through crushing air offensives, another that only by landing troops can Japan ever be defeated, and there are still others, probably the same men who two

years ago were saying that Japanese planes were superior to ours, who moan about the long war which will be necessary to defeat the Japs.

We agree with none of them and have seen in two recent statements what we believe to be the ultimate fate of Japan.

After the capture of the Kwajalein atoll, the Navy decided that if the Japs on the other Marshall Islands were left there, they would slowly starve to death and that it would not be necessary to sacrifice the lives of American Marines or airmen by attacking them.

Recently our forces grabbed Green Island and, according to their statement, cut off from food and supplies 22,000 Jap soldiers on Bougainville and other islands to the south of them.

There was again the statement that we would probably not sacrifice men by attacking them but would leave them to starve.

The Japanese raise only a small portion of their foodstuffs but live largely on rice brought from China and fish which their fleets obtain in waters considerably north of Japan.

Japan has lost most of its destroyers and cruisers, which are their principal defense against American submarines, and as we close in upon them they will lose many more.

In our opinion, the day will come when Japan will not have enough merchant ships afloat to bring rice from China or be able to send its fishing fleet to the fishing grounds.

When that day comes the people of Japan will face starvation and they will forget all about the story of their Emperor being descended from the Sun Goddess and that they are supposed to go to the Japanese heaven if they die for him.

Slowly but steadily our naval power and our air power is drawing a ring closer and closer around Japan, and we have found nobody who can explain how Japan can continue to the end to obtain the food necessary to sustain the life of her people.

We shall probably destroy a large portion of Japanese cities with bombs and we may land troops for land fighting, but it is our opinion that the Japanese will ultimately find it impossible to obtain food and that will be the actual cause of their surrender.

More Gas For Mrs. Roosevelt

Noting that Mrs. Franklin D. Roosevelt proposes to take another overseas trip, we are reminded that an aviator who returned to the United States, just after he had gone through the battle of Arawe, said when allotted only five gallons of gas for his automobile that Mrs. Roosevelt used 40,000 gallons during her trip to Australia.



Metal Planes are Controlled by Cotton

The control surfaces of military planes, the rudders and ailerons, are covered with mercerized cotton airplane cloth.

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DYEING AND FINISHING

Notes on Naphthol Dyeing

By GEORGE BROWN

Part Six

Part five of this series gave practical illustrations of laying out formulas for plant work by the volumetric, metric system and on weight of goods under process. Another point that was stressed—of utmost importance to the young dyer or chemist as well as anyone just starting up on the use of naphthols—is that of having one or more of the leading makers of naphthols give the plant officials full working recommendations to fit the particular plant's equipment and water conditions, not just a mimeographed copy of a routine base preparation method copied out of a manual or text book ten to 20 years old. This article will discuss suggestions as to the dyeing of naphthols on cotton raw stock, the value of proper control of the pH of the developing (coupling) bath, whether it be prepared with a diazotized and neutralized base solution or a fast color salt, and the proper finishing of naphthol dyed yarns and raw stock.—Technical Editor.

PLANTS running yarns on packages and beams should examine these suggestions, as they may help to reduce crocking and dusting of surrounding yarns when naphthol dyed and dried yarns are being prepared ready for subsequent twisting, slashing and weaving operations.

Fast color salts are stabilized diazotized and neutralized fast color base solutions that have been evaporated to a crystal or powder form. The dyestuff plant chemist must first stabilize the neutralized diazotized base solution. These stabilizing solutions used are in many cases aluminum or zinc compounds which tend to give the fiber or yarn on which the naphthol color is dyed a sticky feeling. This is largely due to the fact that these stabilizing compounds have the property of reacting and combining with fatty alcohols and forming a fine metallic soap residue on the surface of the fiber, yarn and fabric unless great care is used to remove this residue of stabilizing agent after the naphthol shade has been developed and before it is soaped off.

To remove this sticky feeling on the dyed yarn after the naphthol shade has been developed on the yarn, some plant dyers and chemists have tried out the following ideas with varying amounts of success:

(1) Giving the freshly developed naphthol yarn a cold wash of 20 to 40 minutes with two to four per cent (on weight of yarn) formic or acetic acid, then draining off this bath and following with a hot scouring off bath, using

a synthetic detergent such as Igepon T, Nacconal NR or Gardinol.

(2) Giving the freshly developed naphthol yarn a cold wash, using one to two per cent muriatic acid and following with a hot scouring off bath with a synthetic detergent.

(3) Giving the freshly developed naphthol yarn a hot scour with two to four per cent Calgon or Quadrophos (phosphate water reactivating compounds) followed by a hot scour with a synthetic detergent.

Another very practical method for naphthol dyers who find it more economical and satisfactory to use fast color salts instead of preparing and diazotizing the fast color bases is to always use some type of acid-proof wetting agent and boil out yarn before the naphtholation bath. If the yarn is boiled out with a penetrant containing a vegetable or mineral oil it will become impregnated in the yarn during the wetting out bath and after the yarn is naphtholated this only residue combines with the aluminum or zinc compounds in fast color salts, thus forming the metallic soaps on the fibers and yarn. For this reason, the best informed naphthol dyers use only those wetting agents free from forming metallic soaps when mixed with the aluminum and zinc compounds.

As there are several of the fast color bases that are quite difficult to prepare, it has been found more economical for naphthol dyers to buy these in salt form and to use the above precautions and methods for preventing sticky yarn and heavy crocking of dyed shade.

Dyeing of Cotton Raw Stock

Dyers running naphthol shades on cotton raw stock have found it advisable to prepare their own diazotized base solutions instead of using fast color salts, as there are only a few fast color salts that may be used on raw stock. Some of the fast color salts that will usually give a sticky dyed yarn which is practically impossible to card and spin are Fast Red 3G, Fast Red GL, Fast Garnet GBC, Fast Blue B, Fast Red KB, Fast Bordeaux GP and Fast Red B.

These salts are being greatly improved by some makers because of complaints given the dyestuff firms; it has been a case of "must" and they have shown greatly improved stabilized color salts freer from this complaint of making sticky dyed raw stock as well as showing heavy crocking, as it is almost impossible to scour off naphthol dyed raw stock as satisfactorily as yarn on beams and packages.

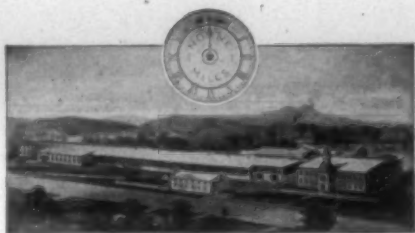
The development of acid-proof dispersing agents such as Diazoapon for preparing fast color bases is of great value to

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dyers of naphthols on raw stock, as it gives them a good penetrant for forcing the neutralized base solution through the heavily compressed raw stock more uniformly and it will rinse out and not leave a sticky feeling on the dyed fibers.

On dyeing of cotton raw stock it is best not to load the machine to its rated capacity but reduce the load 20 per cent, thus giving the naphthol bath at 120° F. and subsequent cold developing bath a better chance to circulate uniformly and give level and well penetrated dyeing of fibers. Too heavy a load will channel and the final dyed stock will show large layers of undyed cotton.

Boil out the cotton stock with a mild alkali in preference to using any synthetic wetting agent, then dye the naphthol bath. If the cotton stock is "export compressed cotton" it must be run through opener before packing into machine. The naphthol bath's temperature may be increased to 120-125° F. and run for 30 to 40 minutes before the salt is slowly added, then run 20 minutes, drain the bath and "blow off" for ten to 20 minutes before adding fresh bath for salt rinse. It is best to use a heavy brine solution instead of adding salt, as it is slow to dissolve and does not give a uniform salt rinse as brine. Some dyers omit salt rinse entirely and give the "air blow off" only; others remove naphtholated raw stock and extract it, then repack and develop it. The salt rinsing method gives better fastness than when it is only "air blown."

In the developing bath, the amount of acetic acid and sodium acetate is very important, as an excess tends to slow up development and give a poor color yield, so care must be taken by the dyer in neutralizing and preparing the developing bath. After the developing bath has been run, the dyed stock is given a cold running wash, then hot wash with soda ash, finished off with a hot wash, using a synthetic detergent such as Nacconal NR, which gives an exceptionally good scouring wash and when correctly carried out leaves the raw stock fibers in satisfactory condition for spinning, as on all raw stock dyeing sufficient salt or brine is added to the final bath to give satisfactory moisture pick-up for carding after being dyed.

This is a point that many naphthol dyers have passed over as unimportant; it is one of the very important pointers to be observed if uniform dye lots are to be obtained. Piece goods plants and print works have used pH glass electrode apparatus for years to check the pH of the neutralized base solutions so as to insure a full color yield as well as uniformity of dyed shade from lot to lot. Too low a pH, such as three to four, causes the final shade in many cases to be weak as well as off shade and increases the crocking on the developed shade in some instances. There are pH test papers but they are not accurate to the degree wanted for testing and determining the desirable pH for a developing bath on naphthols, as these pH test papers can only show within two points and a dyer might as well use a litmus paper as these if accuracy is not needed.

During the past few years there has been widespread interest in new methods to finish naphthol dyed yarns whereby they will be fast to peroxide bleach, as many of the naphthols possess good fastness to chlorine. Plant experimental work has shown that there are several fast color bases that may be given a peroxide finish, such as a light bleaching, which, followed with a soaping off, gives the final naphthol dyed shade a greatly improved fastness to peroxide kier bleaching as well as reducing the crocking and bleeding off into adjacent goods in a kier.

OPA Ups Price of Corn Starch

An increase of 62 cents per hundred pounds has been allowed by the Office of Price Administration to sellers of corn starch and dextrine products in bulk to foster capacity output of the products which are essential to production of war-needed textile products. A proportionate part of the 62 cents permissible increase may be added on those commodities which are not wholly starch or dextrine.

Starch and dextrine (a processed form of starch), which are derived from the wet corn milling process, have been selling at their March, 1942, levels under the General Maximum Price Regulation. Present annual production of 1,800,000,000 pounds is not considered sufficient to supply vital needs, but the 11 firms which are engaged in the wet corn milling process cannot, without hardship, maintain high production at present prices.

Approximately three bushels of corn are required to make 100 pounds of starch or dextrine, so that corn price increases have amounted to \$1.02 per hundred pounds of the finished products. While this increase does not reflect the entire advance in corn prices, it is judged sufficient to enable the processors to give capacity production of starch and dextrine instead of curtailing their output. The order became effective Feb. 9.

Advisory Group Holds First Meeting

The first meeting of the War Production Board's synthetic yarn and tire cord industry advisory committee was held late last month. The government presiding officer is A. L. Freedlander. Committee members are J. L. Bitter, North American Rayon Corp., Elizabethtown, Tenn.; Martin Castricum, U. S. Rubber Co., Detroit, Mich.; J. L. Moritz, American Enka Corp., Asheville, N. C.; Frank Griffen, American Viscose Corp., Wilmington, Del.; M. H. Richardson, Firestone Tire & Rubber Co., Akron, Ohio; Hayden B. Kline, Industrial Rayon Corp., Cleveland, Ohio; H. J. White, E. I. du Pont de Nemours & Co., Wilmington; E. T. Lessig, Goodrich Tire & Rubber Co., Akron; and J. E. McCarty, Goodyear Tire & Rubber Co., Akron.

Saco-Lowell Still On Textile Work

Details of a recent financial report by Saco-Lowell Shops, Biddeford, Me., indicate that the company is still engaged to a considerable extent in the manufacture of its regular products, and probably will continue to be so engaged through this year.

Twisting equipment used in heavy-duty rayon tire cord manufacture, plus a substantial volume of repair parts and other miscellaneous orders for various types of textile machinery, made up some 28 per cent of the total sales dollar volume for the business year ended Nov. 30. The remainder of company production consisted of special war products used by the armed services. Net profits for the year totaled \$704,928 compared to the previous year's figure of \$908,054.

The base period to be used in determining maximum prices of those coated and combined fabrics used in the production of combat vehicles or military airplanes has been changed from March, 1942, to April, 1943, the Office of Price Administration announced recently. The change also applies to services rendered on these fabrics.

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With a *ready weaving* around his heart;
And lady like, she daintily holds to that which belongs,
And *does not shed* anything except what he desires.
She *costs but little,*
And once she gets started she *never calls for stops . . .*
When he is through with her, she *leaves quickly;*
He is satisfied, contented with the *extra strength*
She has given,
And happily he goes about his work,
Knowing she is close at hand when he wants her.
Who is "she"?
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Cotton Goods Market

NEW YORK.—Hope has been expressed in the Worth Street market that the meeting arranged by War Production Board officials at Charlotte, N. C., Feb. 25 will accomplish much in clearing up the still widespread confusion concerning M-317 and L-99. (*Editor's note:* Details of this meeting will be found on Page 46 of this issue.)

The slight increase in prices granted to manufacturers of sheets and pillow cases by OPA has been viewed as an encouraging sign by some in the cotton gray goods market. Possibilities that similar action would be taken in a number of gray goods constructions on which the margin is so narrow as to discourage production was hoped for in these quarters. One of the best means to break the back of the black market is to expand the output on required goods and manufacturers would gladly pay a few cents more to legitimate sources than have to pay a high premium in the black market, declared one factor. This action by the OPA was received with much satisfaction, in that it recognized a pressing problem and opened the way for relief elsewhere.

Textile distributors in the Worth Street market are showing much concern over the export situation and many are asking questions relative to the disposition of unsold goods. What happens to goods set aside for this purpose that are unsold at the end of the quarters appears to be one of the principal questions presented. A great deal of cloth is piling up in some houses that have not yet begun to dispose of their products for shipments abroad, because buyers are unable to present export certificates, is the view in one center.

Selling activity in the Worth Street market has presented a subdued tone on the surface during recent weeks, but intimations were heard of rather fair-sized contracts being taken up on rated orders. Pressure for cloth on rated orders remained strong, while civilian releases ran at a very low ebb. Calls for large amounts of cottons to fill Army needs were received some days ago, with the principal items being approximately 100 million yards of duck to be delivered by the end of June and about 85 million yards of 20-12 gauze for delivery April through June. Most of the fabrics set aside to fill the children's wear order, which totaled 18 million yards of cloth, were reportedly taken up, although mention was made here and there that minor quantities had not been requisitioned and several buyers were unable to locate their quotas.

Bag houses have been especially disappointed over the lack of goods. In addition to the dearth of cotton goods the supply of burlap is far short of expectations, it is generally indicated. Receipts from Calcutta are running some 35 to 40 per cent behind schedule.

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Cotton Yarns Market

PHILADELPHIA.—Current mill reports indicate that the cotton sale yarn industry operated during January at less than the equivalent of two and a half shifts of 40 hours each. Cotton spindles active during the first month of this year numbered 22,217,994, compared with 22,935,012 in January, 1943, and 22,596,322 in December, 1943.

Cotton spindles active during January included: in cotton-growing states, 17,380,158, compared with 17,463,960 a year previously; and in the New England states, 4,301,388, compared with a January, 1943, total of 4,875,786.

The War Production Board claims that the manpower shortage has passed its peak in industry. As far as the sale cotton yarn industry is concerned, this has not yet been demonstrated in the experience of yarn mills. During January, individual yarn producers reported a further sharp decline in their production. They attributed this to sickness among employees, and absenteeism attributed to winter weather, transportation tie-ups and other causes.

As far as sale yarn production is concerned, marginal production is reported to have been substantially reduced. This is partially blamed on scarcity of trained help. Marginal mills have managed to pay more to key employees, but the average remains over one-third below the average for all manufacturing lines.

Among the marginal yarn mills, equipment has deteriorated more rapidly than elsewhere. These mills, at the beginning of the war effort, owned most of the so-called "obsolete" machinery. Spurred by the war demands, this equipment was put into operation with minimum repairs and renewals. Even among well-financed yarn producers, it is claimed, price control has discouraged or delayed rehabilitation of equipment.

In the aggregate, it is contended, marginal operators are substantial consumers of cotton and employers of labor. Their difficulties form a large part of the serious "yarn bottleneck" that continues to plague the purchasing officers of the armed forces and the Office of Civilian Requirements.

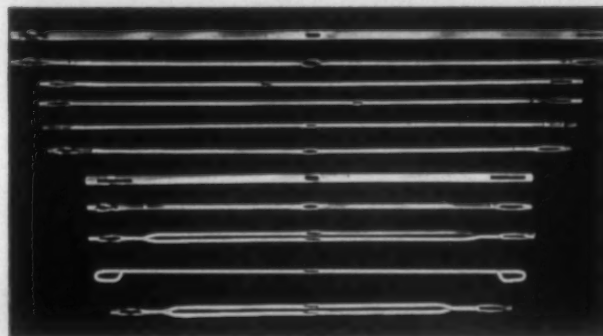
Meanwhile, the sale yarn industry continues to find obstacles in the alleged inadequate price ceilings for yarn and the allegedly obscure parts of WPB amended order M-317. As to the price ceilings, it is now believed among yarn distributors that OPA has no intention of granting relief to the sale yarn mills.

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... are correctly designed for free flow of yarn, to reduce wear and to protect the warp ends from friction.

WALKER FRAMES

... are made for all styles and widths of looms, from seasoned wood and rust resisting metal. They are rigid in design and construction. Smooth to prevent fly from sticking and keep the fabric clean.

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Hendrik VanBrederode	Midland Park, N. J.

M-317, L-99 To Be Discussed February 25

OFFICIALS of the War Production Board's cotton textile division have arranged a one-day meeting at Charlotte, N. C., Feb. 25 for the purpose of discussing with all interested persons details and effects of two recent WPB regulations, L-99 and M-317.

The meeting, which is to start at 10:30 a. m. in the ballroom of the Hotel Charlotte, will be the only one of its type to be held. Details of the conference have been under discussion for some weeks since it became apparent that such a meeting would be necessary to relieve confusion resulting from issuance of the two orders. Plans were initially made to schedule the meeting at New York, but Charlotte was chosen as the site because of its proximity to a majority of organizations affected by the rulings.

M-317, which controls ratings and schedules, and L-99, which specifies loom operations, will be clarified and given authoritative interpretations by staff members from the WPB cotton textile division at Washington. In addition to the executive and administrative officials, special legal authorities will be on hand to help work out any problems which have arisen in attempts to comply with the orders. "The War Production Board is a service organization, and we are anxious to help textile firms in every way possible," states D. Leon Williams, regional WPB priorities manager of Atlanta, Ga. "We feel that a complete understanding of these wartime regulations will be of great value to the textile industry."

The orders affect all branches of the industry, including spinning, weaving, knitting and garment-making plants,

and the meeting Feb. 25 is expected to mark a concentrated drive by WPB to insure full co-operation by the various mills and companies involved. State, sectional and national textile associations are urging their members to attend the meeting, and estimates are that some 1,000 persons will be present for the all-day sessions.

Requests for discussion of any specific points covered by the orders are welcome, state WPB officials. Such requests should be addressed to the cotton textile division, War Production Board, Room 1702 Temporary "D" Building, Washington, D. C. J. E. MacDougall, manager of the WPB district office, and Arthur F. Black, priorities manager, are handling other details from Charlotte.

Army Takes Over Seven Mills

President Roosevelt early this month authorized Secretary of War Henry L. Stimson to take over and operate seven textile plants in the area of Fall River, Mass., because a labor disturbance interrupted war production. Plants involved were the Arkwright Corp., Berkshire Fine Spinning Associates, Inc., Border City Mfg. Co., Bourne Mills, Howard Arthur Mills, Borden Mfg. Co. and Sagamore Mfg. Co.

Mr. Roosevelt said in his executive order that "after investigation I find and proclaim that as a result of a labor disturbance there is an interruption of the operation" of the plants and facilities which had resulted in the war effort being "unduly impeded or delayed." With Army officials on hand, the plants were again operating a few days after their seizure.

Average weekly earnings in textile mill products and other fiber manufactures last November amounted to \$28.34, an increase of 8.9 per cent as compared with the same month of the preceding year, the U. S. Department of Labor has reported. The average weekly earnings for all manufacturing in November was \$45.27, which was an increase of 12.5 per cent over the previous year.

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New Quartermaster Zone Inspection Service Explained To Officers

The new zone inspection service of all Quartermaster Corps purchases in North and South Carolina, Florida and Georgia, under the supervision of the Charlotte (N. C.) Quartermaster Depot, becomes effective Feb. 16, 1944. On Feb. 15 a two-day conference of inspectors from all four states began at the Hotel Charlotte, where Quartermaster officers of the Charlotte depot and officers from the new inspection service headquarters in New York City explained inspection procedures and administrative changes under the new system.

Col. C. W. Woodward, commanding officer of the Charlotte depot, and Maj. Frank F. Cook, recently-appointed head of the newly-organized inspection division, explained the major new aspects of regional administration of inspection. Maj. A. L. Corbin of the headquarters, Quartermaster Inspection Service, New York City, and Dr. H. P. Bacchus, field consultant of the Office of the Quartermaster General, Washington, D. C., outlined to assembled inspectors of this area the advantages of the new system that make possible regional training sessions, closer supervision and broader inspection experience for the individual representative.

The new program, for the zone administration of inspection of all Quartermaster purchases, is gradually being set up throughout the country. Plans include a whole series of instructional brochures and pamphlets on the general subject of inspection as well as on specific items. (The Quartermaster Corps purchases more than 77,000 different items of supply for the Army.) Training sessions for inspectors will now be possible, whereas under the previous system of

centralized inspection, a representative thousands of miles from his central office could hardly attend such special meetings. The entire program is expected to step up and improve inspection administrative procedures, with a quickening effect on the entire war supply effort.

Booklet Offered By Link-Belt Co.

In order to shorten the time required for calculating center distances and chain lengths of chain drives operating over cut-tooth wheels, Link-Belt Co. has computed and published a series of tables which give very accurate results.

The number of teeth in the sprocket wheel of the drive is given in the upper right hand corner on the right hand page of each spread of pages of this book, No. 1991. The number of teeth in the large wheel appears at the top of each of the tables.

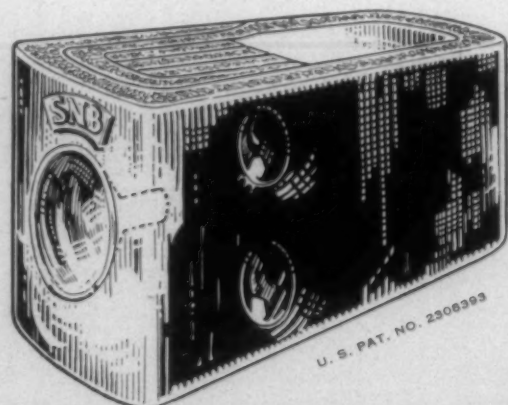
The body of each table gives center distances for a chain of one-inch pitch and of the length listed in pitches in the first column. Center distance for any other pitch of chain may be obtained by multiplying the centers in table by the pitch. A copy of this 20-page book No. 1991 may be had by writing direct to the Link-Belt Co. at 307 North Michigan Ave., Chicago, Ill., or any of its various offices.

Because of contract cancellation, Universal Winding Co. has closed its gun department at Providence, R. I. Some 300 to 400 workers in this department formerly manufactured parts for carbines under a sub-contracting arrangement. The company is currently working on several other important war orders, and officials report there is an increase in demand for winding machinery.

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Combination Overseer and Fixer for small knitting mill making Jersey Cloth. Wonderful opportunity for right man, chance for advancement as mill grows; expect to expand to large unit mill in central North Carolina. Prefer Southern man who knows Southern help. Reply to P. O. Box 237, Gastonia, N. C.

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OVERSEER Finishing and Napping now open for job. 25 years' experience on all kinds cotton goods. Age 56. Can give references. Address "Overseer Finishing," care Textile Bulletin.

POSITION WANTED by Cotton Yarn Mill Man. Carding or Spinning, or can oversee both, or superintend cotton yarn mill. Address "R. M. J., care Textile Bulletin.

WANTED—Position as Overseer of Spinning; 20 years' experience on weaving, knitting and all kinds novelty yarns, white and colored. Now employed; good reason for making change. Draft exempt; good manager help. Address "Box 841-M," care Textile Bulletin.

YARN MILL SUPERINTENDENT wishes to make change. Several years' experience as Overseer Carding, Spinning and Winding; also several years' experience as Superintendent on carded yarns. Married, one child, draft Class 2-A; near 38 years. Good education and wide range of experience on coarse and medium yarns. Have very good reason for making change. Address "Y-T," care Textile Bulletin.

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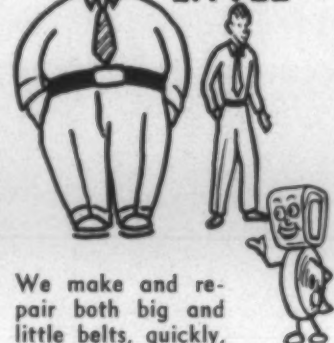
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Address "ABC,"
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Supervisor of Rayon Preparatory Department for Southern Mill. Man should be experienced in all phases of throwing, copping, warping and slashing on all types of synthetic yarn. In replying, give complete record of previous experience and employment. Confidential. Our men know of this advertisement.

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care Textile Bulletin.

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PERSONALS

(Continued from Page 36)

J. A. Long, Jr., buyer for Roxboro (N. C.) Cotton Mills and recently elected a director of the Roxboro Chamber of Commerce, has been named president of that civic organization.

Edward Bartsch was elected president and member of the executive committee of Rayonier, Inc., at a meeting of the directors in San Francisco Jan. 27. Mr. Bartsch has been with the company as executive vice-president for the past several months, and was previously an official of the Chase National Bank of New York. E. M. Mills, who has been president of Rayonier, becomes chairman of the executive committee. Rayonier, Inc., is the world's largest producer of high alpha dissolving pulps used for the manufacture of rayon.

Officers of Statesville (N. C.) Cotton Mills, elected at a meeting last month, are as follows: John W. Wallace, president and treasurer; W. C. Sykes, vice-president and general manager; D. E. Kennedy, secretary and assistant treasurer; and F. B. Bunch, Jr., assistant secretary. C. A. Sykes was named superintendent. F. B. Bunch, Sr., has severed his connection with the firm.

William R. Northlich of the Washington, D. C., office of Owens-Corning Fiberglas Corp., has been transferred to the company's general offices at Toledo, Ohio, as assistant to the general manager.

C. L. Chandler, who recently retired as vice-president and general manager of Jackson Mills, with plants at High Shoals, N. C., Iva and Wellford, S. C., will become mayor of Gaffney, S. C., March 10. He was at one time superintendent of Gaffney Mfg. Co.

Raymond Avery Moody, formerly employed in the cotton office of the Porterdale, Ga., plant of Bibb Mfg. Co., has received his commission as a second lieutenant, Army Medical Administrative Corps.

W. G. Alligood, for a number of years a textile designer with Rosemary Mfg. Co. at Roanoke Rapids, N. C., has joined the staff of American Yarn & Processing Co., Mt. Holly, N. C., where he is with the personnel and religious departments.

George W. Fraker, well-known in the textile industry as a director and former executive of several plants, has retired as vice-president of the National City Bank of New York.

Wade P. Stowe, superintendent of Crescent Spinning Co., Belmont, N. C., was presented the gold key award at the Belmont Junior Chamber of Commerce's recent annual founder's day banquet.

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John:
 Those analyses
 which the Penick &
 Ford Textile Lab-
 oratory in Atlanta
 made for us certainly
 helped solve our warp
 sizing problems.
Jim

OPA Allows Limited Increase in Prices Of Bed Linens

A limited increase in manufacturers' ceiling prices of bed linens was announced by Price Administrator Chester Bowles Feb. 13 as part of a program undertaken with the War Production Board, with the approval of the Office of Economic Stabilization, to obtain full production of these essential consumer goods. This price-production program to insure an adequate civilian supply of sheets, pillow cases and domestic-type bleached and unbleached sheeting is the first undertaken in the textile field under the broad directive of Judge Fred M. Vinson, director of OES, aimed at producing essential and low-cost textiles and wearing apparel in larger supply.

Although manufacturers will be given a production stimulant in the form of a price rise of about four and one-half to five cents per sheet, and wholesale prices may be increased in some instances, no increase in consumer prices will result. This is because retailers' margins are large enough to absorb the increase, Mr. Bowles said. Retail stores will continue to sell bed linens at no higher prices than they charged in March, 1942. "This should be good news for housewives," Mr. Bowles said. "First, they will be glad to know that these important white goods ought to be reappearing on store shelves in more nearly normal quantities within a month or so. Manufacturers have pledged full co-operation to push up production. Second, the price increases for manufacturers have been so scaled that they will be encouraged to center their heaviest production on the type of sheet that has been the most popular for consumers in the low income brackets. This is the sheet known in the trade as Type 128. It is a good, serviceable product and has normally sold at relatively low prices. Three other popular types—Numbers 140, 112 and 180—are also receiving price adjustments.

"Third, the price consumers pay for sheets will be no higher than they paid two years ago—in March, 1942. This means that we are definitely holding the line for this important consumer item. Fourth, reappearance of Type 128—which had become particularly scarce—should mean an actual saving for lower income consumers who were finding that they had to buy a more expensive sheet in instances where they could not obtain the type they normally bought. We in OPA had been deeply concerned over the disappearance of this low-cost textile from the civilian market during the past year."

Increased production of sheetings during 1941 and 1942 supplied enormous military requirements and, at the same time, civilian demands were mostly satisfied from the remaining production and accumulated commercial inventories. Production of bed sheeting declined sharply during 1943 but civilian supplies did not suffer proportionately because of a reduction in military requirements. Manufacturers produced approximately 226,073,000 linear yards of bed sheeting for civilian use in 1943, but the Office of Civilian Requirements of WPB has indicated that the bedrock civilian needs are about 257,000,000 linear yards per year.

The seriousness of this shortage becomes even greater, from both the viewpoint of supply and the cost of living, when it is shown that the leading civilian construction, Type 128, which had accounted for 55 per cent of all production of wide bed sheeting in 1939, steadily declined until it represented only an estimated 30 per cent of the total during the last three months of 1943. This decline is

explained partly by a shifting of looms to Type 140—a heavier construction purchased by the military—but also by the fact that under previously established price ceilings, mills found it less profitable to manufacture Type 128 than Type 140 when relative costs of production are considered. The overall decrease in production of all bed linens was attributed mainly to the critical shortage of manpower, resulting in fewer workers and less efficient production for sheeting mills and causing manufacturers either to abandon a full third shift or to reduce such operations.

Abundant Protein Source Expected To Foster New Industry

For the first time in history science and industry are now assured of an unlimited supply of low-cost protein that can be extracted from soybeans handled and stored in a pure form and subsequently be used in hundreds of industrial products, Robert A. Boyer, director of scientific research of the Drackett Co., Cincinnati, stated recently.

The availability of this new source of protein from soybeans marks the start of a new industry which promises to be not only worldwide in scope, but fundamentally important to the future of the nation, Boyer asserted. Already, he pointed out, his company is making from soybean protein a fiber which is as warm as wool, resilient, durable and can be woven into many useful textiles. Many other industrial uses may be made of this protein.

Heretofore, Boyer said, man has been forced to get his proteins from the animal world, but animal proteins were both expensive and difficult to handle, thus preventing their extensive use as an industrial raw material. Soybean proteins are low in cost and much easier to handle.

Soybean protein molecules, Boyer said, are several times larger than anything man has made. Nature, he explained, has made them into the many wonderful beings of the animal world. "Scientists, now having available an unlimited supply of these large molecules, can learn to polymerize them just as they have learned to polymerize other molecules to make such products as synthetic rubber and nylon," Boyer said. "This will inevitably result in the scientific development of a variety of new industrial products."

T. O. E. Program To Be Arranged

The officers and executive committee of the Textile Operating Executives of Georgia have arranged a meeting Feb. 25 to decide whether the organization's next meeting will be a regular get-together or a discussion by mail. Discussion in any event will be concerned with carding and spinning, and members have been asked to submit any problems pertaining to this subject. Although the group's secretary, Robert W. Philip, has moved to LaGrange, headquarters have been retained temporarily at 1020 Grant Building, Atlanta 3.

Interesting Facts in New Acme News

Shipping of food, naval shells, Army trailers, logs and many other war and essential civilian products is illustrated and discussed in the current issue of *Acme Process News*, No. 15. Shippers of all types of products will find the fact-cramped pages of *Acme Process News* both interesting and profitable reading. Free copies may be obtained by writing Acme Steel Co., 2840 Archer Ave., Chicago 8, Ill.

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Laurel Emulsions give more even cotton yarns, clearer stitch and proper regain.

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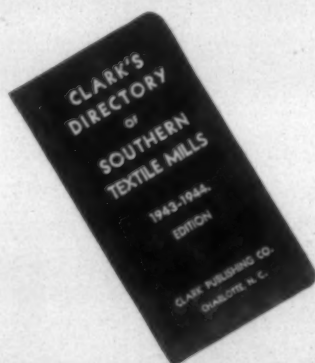
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CHARLOTTE 1, N. C.

Split Rating Procedure Explained

The War Production Board has announced that when two or more preference ratings (split ratings) are assigned to the same production schedule, they must be split proportionately in applying them to each class of production material required. This application, according to Direction No. Six to Priorities Regulation No. Three, is on a class-of-item basis, and must be followed in all instances where more than one preference rating is assigned to one production schedule.

WPB has fixed a base rating which it will assign for ordering production materials that go into each finished product group. The same base rating will be assigned, therefore, to each production schedule covering the same product group. However, higher ratings may be assigned to a portion of the production schedule by WPB. To illustrate this rule, if it is decided that \$100,000 worth of nuts and bolts and \$50,000 worth of wiring devices are to be put into production during a quarter, and the preference ratings assigned to the schedule are 60 per cent AA-2 and 40 per cent AA-3, the AA-2 rating may be used to buy \$60,000 worth of nuts and bolts and \$30,000 worth of wiring devices and the AA-3 rating may be used to buy \$40,000 worth of nuts and bolts and \$20,000 worth of wiring devices. Direction No. Six to CMP Regulation No. Three, issued at the same time, is identical.

Direction Appeal Method Set Up

The adoption of a provision whereby manufacturers and producers of textiles, clothing and other related products may appeal from production directions on the ground that compliance will result in production at a loss was announced Feb. 14 by the War Production Board. The provision is in an amendment to Order M-328, issued June 1, 1943, which controls the use of preference ratings for textiles, clothing, leather and other related products, in order to assure production of essential items for both civilian and military needs.

The amendment permitting appeals for suspension of directives became effective Feb. 10. WPB officials pointed out that application for price relief, on the ground that production would be at a loss, is to be filed with the secretary of the Office of Price Administration, Washington, D. C., and a copy filed with the WPB Appeals Division. If the WPB appeal is granted, the direction requiring increased production will be suspended, pending a decision by OPA on the application for price relief.

Sheeting Output On 1942 First Quarter Basis

To help alleviate current shortages of bed sheets and sheeting, the War Production Board has issued directions to mills calling for production in the same quantity as that of the first quarter of 1942, the period during which peak production was reached. The directions also provide for production of increased quantities of 64-sley bed sheeting so as to increase supplies of lower priced sheets available for civilian consumption. Beginning April 1 the production of 60-sley bed sheeting is to be in the same ratio to the total production of each mill as that which existed during the first quarter of 1942. It is expected that as a result of these directions, larger supplies of bed sheeting in the lower price lines will be made available.

Piedmont A.A.T.C.C. Plans Made

All charter members of the original Southern section of the American Association of Textile Chemists and Colorists have been asked by A. R. Thompson of Ciba Co., Charlotte, N. C., to notify him whether or not they will attend the 20th anniversary meeting of the Piedmont section at Greenville, S. C., March 25. These original members and all past sectional chairmen will be placed at special tables at the dinner in connection with the celebration. H. R. Mathewson, superintendent of Union Bleachery at Greenville, and Robert Smith of High Point, N. C., will speak on technical subjects. Site of the meeting will be the Poinsett Hotel.

Club Members Buy Extra Bonds

J. Harry McGinty, Jr., of J. P. Stevens & Co., Inc., chairman of a special committee to promote the Fourth War Loan Drive, reported at the regular February meeting of the Atlanta (Ga.) Textile Club that extra war bonds bought by members over and above their regular purchases amounted to \$46,185. Guest speaker for the day was Donald M. Hastings, who made a timely talk on the "Value of Victory Gardening," and answered informally many questions from members. President William I. Hudson, Jr., presided and presented four newly-elected members: J. C. Gunnin, J. H. Grobli, Harry Gunnin, all of Cannon Mills, Inc., and Jesse W. Stribling, editor of *Cotton*.

"E" Award Activities

(Continued from Page 22)

efforts, to produce to the very limit of our ability in order that this wicked war might soon be won, and with the help of Almighty God, we each and everyone will do our full part until our boys come home."

Another Georgia textile plant, Exposition Cotton Mills of Atlanta, has been notified that continued good performance on war contracts has merited the award of a second star to its Army-Navy pennant. The plant was initially honored March 16, 1943. The Navy Board for Production Awards has notified Brown Instrument Co., Philadelphia, Pa., manufacturer of industrial instruments, that the company has been granted a renewal of its "E" flag, originally presented July 27 of last year.

Textile Wage Plan Outlined

The Fourth Regional War Labor Board voted Feb. 3 to authorize approval of voluntary wage adjustments up to 50 cents per hour, establishing in effect a 50-cent minimum wage for all business and industry in Georgia, Virginia, Florida, Alabama, Tennessee, Mississippi and the Carolinas. The privilege of increasing wages up to 50 cents per hour applies only in voluntary cases, where either the employer alone, or the employer and a labor union representing his employees jointly, file an application with the board. In dispute cases where a union demands increases up to 50 cents per

hour the minimum wage and the employer refuses to agree to such increases, the board will not automatically authorize the increase, but each dispute case will be determined upon its own facts.

Mercerizers Discuss Future

Plans for increasing consumption of mercerized yarns in the post-war period were discussed by members of the Mercerizers Association of America at a meeting this month at Charlotte, N. C. J. L. Rankin of Chester, Pa., president, and R. T. Scott of Washington, D. C., secretary, were in charge of the meeting.



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Planned and Co-ordinated Textile Research for the Future vs. Previously Isolated Activity

(Continued from Page 31)

and least percentage of troublesome sugars and gums that must be removed or recovered as by-products for eventual use.

Georgia School of Technology, better known as Georgia Tech, co-operated with the T. V. A. and other governmental agencies on the spinning and weaving of flax produced in Southern areas, not suitable for profitable agricultural uses. To date, this work has created some interest but might best be called an excellent training ground for developing young men for future leaders of planned textile research work throughout the South and other sections of the country. This work is under the direction of C. A. Jones, dean of the textile school at Georgia Tech, and he has done an excellent job that will probably be expanded and made of real value to the South and the textile industry in the future.

Another very interesting piece of worthwhile research started at Georgia Tech was that of making viscose rayon from newspaper print stock made from loblolly pine by the late Dr. Herty. This is a program that will eventually be taken up by large corporations and tie in with the great work of Dr. Herty. This is an excellent illustration of co-ordinated complementing of one research program with another so as to make both fruitful of results.

Dean M. E. Campbell, the new dean of the textile school of North Carolina State Collogs, follows in the footsteps of Dr. Thomas Nelson, who has done a magnificent job in preparing the textile mill officials of the Carolinas and other states for these textile research programs that are now being planned. Dean Campbell, before a recent gathering of the Southern Textile Association, outlined the program of planned research that is expected to reach every branch of the textile industry in North Carolina over the first five-year period and to carry on with the momentum then gained.

From the plans now underway, the textile industry should look forward to many revolutionary changes and continued prosperity for workers as well as people who have their funds invested in the industry.

Boat Cloth Gets Ceiling Price

Mechanical boat cloth—the cloth of which life jackets known as "Mae Wests" and the boats that can be inflated in the water are made—has been given a cents-per-yard ceiling price by the Office of Price Administration. Five additional constructions of fine cotton cloth are also included in this action. They are poplin used in wind breakers, fine combed plain cloth used in the manufacture of small gears for electric motors, etc., printer's blanket cloth used as a cushion in printing, and two classes of carrier apron for rubber thread used as an absorbent to protect rubber thread from heat.

Previously, these cloths were normally subject to prices on cents-per-pound basis lower than the level of the specific prices contained in the regulation. The setting of cents-per-yard prices, higher than the poundage of figures, follows a regular procedure under which producers are permitted to request prices for unlisted constructions in line with specific yardage prices established for other constructions.

WPB Restates Policy On Industry Advisory Groups

A restatement of policy outlining the rules and orders applicable to all group meetings of industry representatives and industry advisory committees with officials of the War Production Board, codified into a single order, GAO 2-141, has been announced by WPB. There are no changes in policy or procedure. The new order reaffirms a policy of using committees as advisory groups on war production which has been in practice since the early days of the emergency.

Under the new order, signed by Donald M. Nelson, WPB chairman, no limitation or conservation order or amendment may be issued without prior consultation with an industry advisory committee if the change will result in a substantial alteration in the operations of that industry. A vice-chairman of the War Production Board, however, is authorized to waive this requirement only in case the order is of an unusually confidential character or if the necessity for speed of issuance makes such waiver expedient.

Included in the new order is a clear-cut statement of the protection afforded representatives of industry against anti-trust prosecution growing out of the activities of these advisory groups. Limitations of such group activities are also clearly defined. The immunity from prosecution under the terms of the anti-trust laws is the result of an early agreement between the attorney general of the United States and the general counsel of the War Production Board.

WPB formed its first group of industry advisory committees more than two and a half years ago to maintain contact with changing aspects of war production and to secure the advice of business men who are closest to these problems by consulting with a representative cross section of the industries affected.

"We now have over 750 of these committees representing all segments of industry," John C. Whitridge, Jr., director of the Office of Industry Advisory Committees, said, "and their members have made an outstanding contribution to the war production effort."

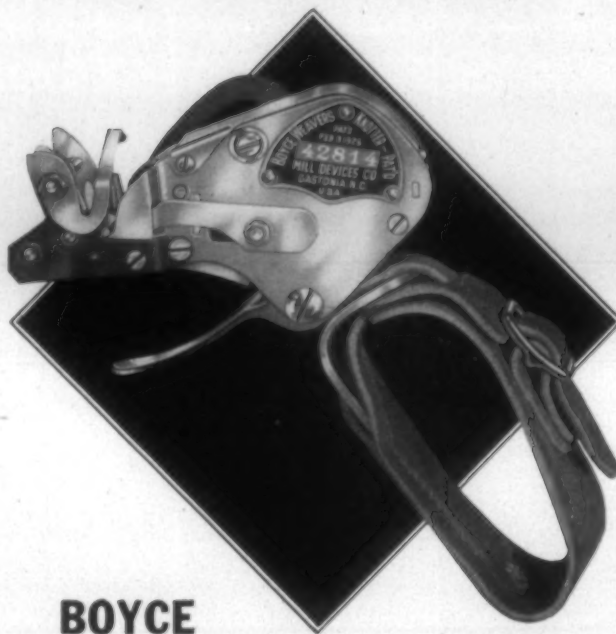
"The War Production Board depends on these committees for practical advice and recommendations. Industry has been given a voice in the administration of the war effort through the advice of these representative groups. The committee members have always responded unselfishly and generously to the many demands put upon them and a large share of the credit for the successful co-operation between industry and government during the war emergency is due to the members of these advisory committees."

Repellent Now Named "Norane"

Ernest Nathan, president of Warwick Chemical Co., West Warwick, R. I., has announced that the company has received a registration of the name "Norane" for its new durable repellent, formerly known as "Warcopel."

A new machine to replace hand labor in separating hemp fibers from the woody pulp for later use in the manufacture of bags was demonstrated recently at Honey Brook, Pa. Jose Garcia Inerarity, director of the agricultural bureau at Santa Clara, Cuba, expressed satisfaction with the new machine and said he would report its development to his government.

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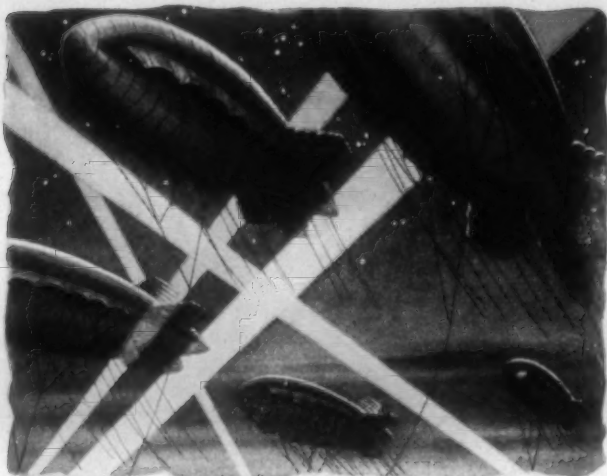
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OBITUARY

J. F. TALCOTT

J. Frederick Talcott, president of James Talcott, Inc., textile and general factors, died suddenly Feb. 6 at his home in New York City. He was 77 years of age. Services were held Feb. 8 at New York.

CHARLES COPELAND

Charles Copeland, 76, formerly secretary and director of E. I. du Pont de Nemours & Co., died at his home in Wilmington, Del., Feb. 3. He retired as the company's secretary in 1935 after serving for 14 years at this post, but remained a director until 1942.

W. deY. KAY

William deYoung Kay, 52, treasurer of Lane Cotton Mills, died Jan. 31 at New Orleans, La. He was a native of Memphis, Tenn., a graduate of the Massachusetts Institute of Technology, and joined the Lane organization in 1942. Survivors include his widow, his mother and two children. Services were held Feb. 1.

L. A. WERTS

Leroy Abner Werts, secretary and assistant treasurer of Mills Mill, died Feb. 10 at Greenville, S. C., following a month-long illness. He was connected with Belton (S. C.) Mills before joining Mills Mill 24 years ago. Survivors include his widow, a son, two daughters, two brothers and three sisters. Services were conducted Feb. 11.

MRS. C. S. LITTLE

Mrs. Lena Rhyne Little, wife of C. S. Little, secretary and treasurer of D. E. Rhyne Mills, Inc., died recently at her home in Lincoln, N. C., after a lengthy illness. She leaves her husband, four sons, a brother and two sisters.

LIEUT. R. Q. RICE

Word has been received of the death of Lieut. Ralph Quillan Rice, Army Air Forces, the son of L. H. Rice, manager of Opelika (Ala.) Mills. Lieutenant Rice was a student of textile engineering at Alabama Polytechnic Institute prior to entering the service in 1942. He died Nov. 30 in a plane crash near Berkshire, Eng., less than two weeks after his 22nd birthday.

J. H. MacMAHON

James H. MacMahon, who for nearly 40 years was connected with Mathieson Alkali Works and was widely known in the chemical consuming industries, died Feb. 7 at his home in Buffalo, N. Y., aged 83. He was manager of the Mathieson plant at Saltville, Va., from 1918 until 1921, and from then until 1935 was technical representative of the company with headquarters at Niagara Falls, as well as chief of development work.

O. F. BENTON

Owen Franklin Benton, 60, general superintendent of Cowikee Mills, died recently at Eufaula, Ala., as a result of a stroke of paralysis suffered last December. His experience in the textile industry included positions at several mills in Georgia and Alabama.

MRS. W. R. CRABTREE

Mrs. W. R. Crabtree, wife of the manager of the Firestone Cotton Mills unit at Bennettsville, S. C., died recently at Fall River, Mass., following a lengthy period of failing health. Services were held at Fall River. Survivors include her husband, a daughter, two sisters and a brother.

J. L. STARNES

Jesse L. Starnes, 49, master mechanic at Slater (S. C.) Mfg. Co. for 16 years, died suddenly this month. He is survived by two sons and two brothers.

I. L. WEST

I. Leander West, 65, overseer of construction for Beaumont Mfg. Co., died Feb. 5 at his home in Spartanburg, S. C., following a brief illness. Services were conducted Feb. 6 at Spartanburg.

MRS. T. Y. WILLIAMS

Mrs. T. Yancey Williams, wife of the vice-president of Springs Cotton Mills, died recently at a Lancaster, S. C., hospital, aged 74. She is survived by her husband, one brother and two sisters.

C. M. GUGGENHEIMER

Clarence M. Guggenheimer, 66, vice-president of Cone Export and Commission Co., died Feb. 15 in a Miami Beach, Fla., hospital as the result of a heart attack suffered four days previously. He had been with the Cone firm since 1901. His wife is the only immediate survivor. Services were scheduled for New York City.

J. C. Sanders Indicted On Federal Mail Fraud Charge

Three persons, including J. C. Sanders, cotton mill owner of Mobile, Ala., and George L. Upchurch, cotton mill machinery dealer of Athens, Ga., were arrested recently at Mobile after their indictment by a Federal grand jury on a charge of conspiring to use the mails to defraud in connection with the effort of Sanders to collect insurance on his Prichard, Ala., mill that was destroyed by fire on Aug. 8, 1942. The third person is W. L. Barfield, a former office manager for J. C. Sanders Cotton Mill Co.

Sanders also is facing a charge of perjury in connection with his testimony last July when 11 insurance companies won a Federal Court verdict which prevented him from collecting a claim for \$540,000 in insurance and he also is indicted separately on a charge of using the mails to defraud. Sanders is at liberty under bond of \$10,000 and the other defendants under bond at \$2,000 each.

In the perjury case Sanders is charged with many conflicting pieces of testimony, and that he denied on the witness stand in the civil suit that he ever had offered to sell his mill properties for as low as \$200,000 or \$240,000, but testimony and numerous letters and documents were introduced to show that an option for \$240,000 given to S. Brudno of Cleveland, Ohio, had expired just eight days before the mill was burned. In the indictment charging conspiracy, Upchurch is specifically accused of falsifying an inventory of the mill machinery in preparing a proof of loss for Sanders after the fire.



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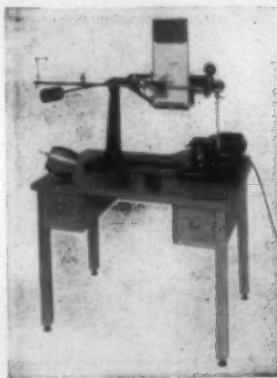
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W. H. MONTY, Pres. and Treas.

A Long Range Look Into the Future of Cotton Spinning

(Continued from Page 18)

signers from some of the newer industries consider the textile trade so hidebound. Their machines as machines may be an improvement but fail in competition. When the Draper loom was introduced, they very wisely went over the spinning and warp preparation and made changes that favored the operation of a large number of looms. Yarns that ran successfully on the old plain loom would not run well on the automatic, so changes were made in the technique of spinning, spooling, warping and slashing that made available the tremendous savings the automatic loom offered. The same was true of the Barber-Colman development of automatic spooling and warping. We had to change the build of our bobbins to get the full benefit of the new process. Consequently, if and when valuable new or radical improvements are developed, the adoption will be slow due to the lag in the development of competitive techniques.

Taking a broad view of the problem of spinning yarns on the cotton system, it is probable that the improvements will in the immediate future be by advancing still further along the lines proven profitable in the past so as to keep as much as possible the advantages of 200 years of evolution in technique. Those developments that are sure to come will rather fit into this picture than be something as radical as the drafting rolls of Wyatt, though I may well be wrong.

Let's look at our processes, briefly discussing their present limitations and the possibilities of future improvement.

It seems logical that there will be an increased use of the opening or blending feeder. You can only remove surface trash from cotton. You cannot get trash from the middle of a lump. You cannot blend large lumps well. Therefore, at the very start of the process the cotton should be opened to as fine a particle size as possible. An adequate number of blending feeders opening the cotton from the bale, delivering particle sizes about like goose feathers, will prove to be a most profitable investment.

It has been said that if a good engineer who knew nothing about cotton were given the job of making a machine literally to ruin it, his first approach would be to feed it through rolls under heavy pressure to a revolving knife blade. This is a good description of a picker. Were it not for the fact that the cotton fiber is about the toughest thing known, it would hardly survive the picker. In spite of this, the picker does a wonderful job cleaning the heavy impurities. Sometimes the picker fails to remove this as well as the fine dust which is objectionable in subsequent processes and frequently lowers the grade of cotton by giving it a grayish cast. The picker forms a lap for the card that is composed of small tufts or bunches pressed and calendered together. There are many cleavage lines between these particles that cause plucking at the feed roll on the card. Consequently, card sliver made from a lap with only three per cent variation yard by yard may run up to 60 per cent variation in the card sliver. This is an extremely long variation and will not be found by weighing a few consecutive yards. The best place to get an exact picture of your card sliver variation is to size every can of your breaker drawing. This has been done in many mills and as yet no one has reported less than 60 per cent variation. Double carding, which feeds laps made from slivers with no cleavage lines,

will reduce this to less than five per cent. A method of producing a sheet as smooth and as free from tufts and bunches as cotton in the bale would greatly improve the uniformity of card sliver and make for better preparation, even though we sacrificed cleaning at the last picker section. In picking, especially on the long staples, the tendency is to beat the cotton too much. You never find a picker mote in your finished product. We often forget that the card, producing from three to 15 pounds on 40 inches of width, with mote knives accurately set to a few thousandths, follows the picker doing from 300 to 400 pounds on the same 40-inch width.

The card is the foundation of our spinning process. It changes the sheet of cotton composed of bunches that can't be drafted to a sliver composed of individual fibers freed and separated from the tufts or particles of which they were a part. This is done by spreading the cotton on the cylinder into a very thin film. The quality of carding is governed by the thickness of this working film. When the doffer speed is reduced by one-half, twice as many inches on the cylinder pass one inch on the doffer, and, consequently, to maintain the same weight of sliver, the film is cut in half. This explains why long, fine cotton must be carded slowly. The longer and finer the fiber, the thinner it must be spread over the cylinder to get the proper separation or untangling. Going to the other extreme, some of the new coarse denier fibers are so coarse and stiff they can be carded at rates greater than anything commonly used on cotton. The card requires considerable power, floor space and is expensive. Its labor cost is very low and it has remarkable leveling qualities for short length variations.

Many attempts have been made to raise production on cards, among the most recent being the increasing of cylinder speeds. In theory this appears to offer two alternatives—you can maintain present production with better quality, or you can increase output with the same quality. The trouble appears to be that the card and clothing were designed for the present speed and any great increase leads to mechanical trouble. This is a very interesting subject and maybe later will lead to some worthwhile change in a machine that has existed since 1887 with very little change in detail and none in principle.

Not much can be said for a process that has existed so long without any material changes. The package produced by drawing has lower density, is more awkward and is harder to move any great distance than any package in the mill, and in case of an accident the package is more easily tangled to the point that it is largely waste.

One-process roving is today developed to such a state that the most promising immediate savings are to go to bigger packages.

It is obvious that the weight of the unit handled largely controls the cost. The spinning bobbin is the smallest package in the mill, and in the majority of mills it costs approximately 50 per cent more to put the production through the one process of spinning than it does to put the stock through the five processes of opening, picking, carding, drawing and roving. If you will examine the cost of putting cotton through each of these individual processes, you will find the cost bears very close relation to the weight of the package creeled and doffed. Had some improvement been made in the ring and traveler so that spindle speeds

MINEROL

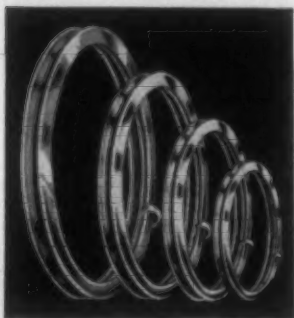
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could have been maintained approximately as at present with larger rings and longer traverses, there would have been more large package spinning running than there is today. We think that in the immediate future there will be a large number of narrow gauge spindles replaced. With the perfection of the automatic filling winder, more and more filling yarn will be spun on big rings and rewound. In fact, it looks as though practically all filling will be rewound if some of the improvements in spinning now being studied work out.

There will continue to be advances in automatic winding and warping even though the savings will be less as the size of the spinning bobbin increases. This section of our machinery has already just about kept up with automatic weaving in reducing the relative cost of the two operations.

Much can and will be done in this process when we come to the realization that slashing is an extremely low cost preparation for weaving which is the highest cost operation in a mill making cloth. Many mills now spend more money cleaning looms than they do in their slasher rooms. The yarn that comes off the present slasher has a very rough, broken coat of size and has been robbed of a part of its elasticity which is one of the most valuable assets of yarn at the loom.

The machinery builders have already done a wonderful job, and naturally when a new machine is just brought out improvement is very rapid. We can look for continued improvement in automatic quilling, improved technique of operation, and even lower costs for quilling.

The ring twister has dominated the field in cotton twisting and the so-called "upstroke" or silk twister has held the same position in filament twisting. The trend in both types has been very pronounced toward larger packages. After the war it is probable that a new twister will compete in both fields. For a hundred years we have known it was possible to insert two turns of twist for one revolution of the spindle. The package does not revolve and, because this is so, there is no need for a self-balancing or flexible spindle; also, for the same reason, there appears to be no limit to the size of the package possible. A great deal of work has been done on this in Germany and France. F. A. Seiberling, who founded and built up the great Goodyear Rubber Co., about 18 years ago brought one from France and gave it to me. It twisted 23/5 ply and as it revolved 10,000 r.p.m. It put in 20,000 turns of twist per minute. A little later the thing exploded and almost killed several people. If this method of twisting is perfected and made safe, it will be a competitor to be reckoned with by the ring and upstroke machines.

In conclusion I want to state that what I have said is the expression of my personal opinion only. It is not that of my associates. In the years ahead of us, if we earnestly believe we can do it and exhaust every effort to that end, we can get back at least some part of our export business. When I started in the mills as a beginner, practically every yard of cloth from the mills in upper South Carolina was exported, and this was true of the South generally as well as of a considerable part of New England. The great automotive industry with high-cost American labor can and does have a large and valuable export business. We have reached a point where we are going to have to put more brains, vision and courage into our business or fall back into the ruinous competition of an overstaffed industry. Draper showed the way in weaving cloth. I believe it is possible to go at least some of the way in spinning yarn.

Amendment Clarifies Rules On Controlled Materials Use

Rules governing the use of controlled materials after they are received by a manufacturer have been clarified in an amendment to CMP Regulation No. 1, which deals with basic CMP allotment procedure, it was announced this month by the War Production Board's controlled materials plan division.

The amended regulation permits a manufacturer to use surplus material to fill another authorized production schedule than the one for which the material was originally acquired, if he changes the original allotment account.

Formerly, a manufacturer could only use such material to fill another authorized production schedule if the other schedule was identified by the same claimant agency letter symbol.

The amended regulation states that a consumer of controlled materials may keep such materials and Class A products received in common inventory. In withdrawing from this inventory, he does not have to charge these products or materials against his allotment account.

Manufacturers operating under several production schedules do not have to maintain separate records for each schedule, if their usual records indicate that the production on each schedule is substantially in proportion to the amount of the allotments received for each schedule, and that their aggregate production of any product does not exceed the aggregate of the production schedules authorized.

Consumers of controlled materials must charge their allotment accounts with materials acquired under Priorities Regulation No. 13, unless that regulation indicates that such a charge is unnecessary. In certain instances, WPB regional offices are permitted to allow the allotment purchase of controlled materials, under provisions of priorities Regulation No. 13.

The modified CMP Regulation No. 1 requires that consumers check on their allotments the first of each month, and if they find that they have been allotted more controlled materials than they need, returns of the excess must be made by the tenth of the same month.

At the end of each calendar quarter, a consumer of controlled materials must determine whether he has used his entire allotment by placing authorized controlled material orders or making allotments to secondary consumers, and, if he has any excess, regardless of how small it is, he must return it by the tenth day after the close of the quarter.

Minor changes are made in the symbols designating claimant agencies.

In addition, the list designating controlled materials has been spelled out in greater detail, indicating more specifically what materials are in the different categories.

Amendments to Conservation Order M-356, issued Feb. 8 by the War Production Board, are expected to distribute equitably among producers of fine rayon yarns the burden of filling export orders for this item by excluding from the total spindles on which the export percentage is based those spindles that are used in the production of high tenacity yarns. Prior to the amendments of Feb. 8, the percentage of fine rayon yarns to be set aside for meeting export quotas was based on production of all rayon yarns, including the high tenacity yarns used in the manufacture of tires.



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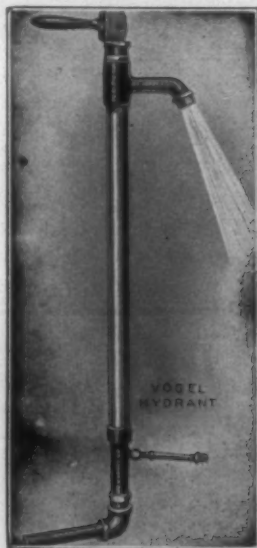
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Reducing Absenteeism and Turnover

(Continued from Page 20)

One of the basic measures advocated by the institute is the establishment of adequate grievance machinery, especially in the smaller mills, where the temptation to become paternal is most apparent. If there is anything that the American workman resents, institute executives say, it is paternalism. A workable grievance system gets around this hazard by functioning automatically and impersonally. Stating a complaint is not tantamount to asking a favor of the boss. The institute has issued frequent warnings against the "one big family" idea—pointing out that family squabbles are the worst kind of all, and that the executive who depends upon his personal friendship with the employees to keep things running smoothly may be disappointing in the end.

It pays to reward employees for perfect attendance, but this must be accomplished within the limitations fixed by wage stabilization. For instance, you cannot institute payment of cash awards, unless such payments were the established practice in your mill before stabilization began. But the War Labor Board has permitted textile mills and other plants to raffle off war bonds for distribution to workers with perfect attendance records. Approval of the board must be secured before the plan can be put into practice, but the WLB has announced that it will give prompt approval if the plan does not increase the total payroll more than one per cent.

In setting up a plan of this type, employers are allowed to choose between admitting only employees with perfect attendance records to the drawing, or else specifying certain excusable absences. The board will approve such absences as death in the family, injury while at work, illness certified by a physician, jury duty and draft board calls. However, it is advisable to limit such absences to two per month.

Another device advocated by the institute is to allot vacation pay in proportion to absenteeism—counting, of course, only time lost through unexcused absences. The recommended formula is to reduce the vacation pay five per cent for every 40 hours lost. This now requires NWLB approval.

The institute's recommended approach to the turnover problem is similar to that in regard to absenteeism, only in the former cases, exit interviews take the place of the hearing accorded the returning worker. By requiring everyone who quits or has been discharged to pick up his final paycheck at the personnel department, an opportunity is created for a last-ditch attempt to "unsell" the individual—or at least to find out why he is leaving. Of course, the information so obtained may help to combat the absenteeism evil as well.

The absenteeism and turnover rates are important to every textile mill, not only because of their effect on production and the headaches which they cause the employment managers and the plant superintendents—but also because they tie in closely with government controls. If and when labor rationing is instituted on a nationwide basis (and this is a distinct possibility, according to the institute) each mill's turnover rate will be a factor in determining its priority for replacement workers.

Japan is reported to be making cloth for military uniforms from Manila hemp; the hemp is cut into very short pieces, treated with caustic soda, mixed with paper pulp and twisted into a thread.

Post-War Properties of Clothing Fabrics Stressed in Research Report

A glimpse into the significance of war-time research to the public interest is provided in the report entitled "The Functional Properties of Clothing Fabrics" which has been published by the Textile Research Institute, Inc., 10 E. 40th St., New York 16, N. Y. The report is based on a symposium held at the recent annual meeting of the institute.

The treatment of the subject is centered around the fundamental principles involved in the utilization of textiles to keep the body warm, comfortable and dry. As pointed out by Dr. Milton Harris, director of fundamental research of the institute and of the Textile Foundation, who was chairman of the symposium, while the immediate goal of the military research conducted on textiles is to do everything that will contribute to the efficiency of our armed forces, just a resume of the type of work done makes it obvious that these same considerations can be applied to our civilian problems on the successful conclusions of the war.

On the first of the three properties mentioned by Dr. Harris, that of warmth, one of the papers included in the report deals with factors relating to the thermal insulating values of fabrics, by Dr. Herbert F. Schiefer, physicist with the National Bureau of Standards. Naturally that subject has been of great importance in research on military fabrics. After outlining some of the conclusions, Dr. Schiefer points out that in using different types of thermal transmission instruments, the experimenter should measure other properties of the fabrics and establish their relationships to thermal transmission which would make it possible more readily to translate the results obtained from one instrument to another instrument. If that had been done years ago, he adds, then the wealth of information published in the literature could be interpreted on a common basis.

The second property, that of keeping the body comfortable, is discussed in a paper on "Water Vapor Permeability of Fabrics" by Dr. Lyman Fourn of the Textile Foundation. Pointing out that there is an insensible perspiration which goes on all the time, whether we are warm or cold, Dr. Fourn states that a rather surprising result of tests is that water vapor permeability is rather independent of the porosity of the fabric and that the main resistance to the passage of water vapor is in the layer of air inside the clothing and outside the clothing. Dr. Fourn feels that much more work is needed in correlating the results of tests on this phase. The human body is really extremely sensitive, compared with most laboratory instruments, to change in temperature, he points out; and in the summer time even a very small heat load imposed by thermal insulation of the fabrics is reflected in the necessity for increased sweat production and the necessity for increased evaporation.

On the third property listed by Dr. Harris, Arnold M. Sookne of the Textile Foundation states that the water-repellency problem is not merely one of keeping dry, but rather one of keeping both dry and comfortable, and the problem of ventilation must be considered in any clothing study. The thing for the textile industry to solve is that of designing suitable fabrics and garments on which to put good ones available.

Copies of the report have been sent to members of the institute, and may be purchased by non-members from the institute office at 50 cents each.

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Reorganization of Research Structure Announced by A. A. T. C. C.

The most important action taken by the council of the American Association of Textile Chemists and Colorists during its recent meeting was the acceptance of the report rendered by a special committee headed by Leonard S. Little on the reorganization of the association's research operations. Other members of the committee are J. R. Bonnar, secretary; William D. Appel, new president of the association, and Thomas R. Smith, the outgoing president; also P. J. Wood and Dr. L. A. Olney, both ex-presidents and the latter research director since the body's foundation.

For 22 years the A. A. T. C. C. has carried out an ambitious program of research aimed at the establishment in this country of textile quality standards and testing methods. Prior to that there were no recognized national standards, the field was chaotic and the best to be had were foreign standards or sporadic specifications covering private house brands. Dr. Olney organized a general research committee which today comprises 55 members, representing a true cross section of the dyeing, printing and wet finishing interests of the textile industry. This executive group was sub-divided into, and augmented by, 37 sub-committees, each of which was charged with a specific problem in the field of textile quality standards—such as fastness to light, and washing of colors on all commercial fibers, shrinkage, water repellency, etc., etc.

These committee members volunteered their services and made available to the A. A. T. C. C. the facilities of 50 or more of the finest textile laboratories which the industry affords. A typical year's operations included 61 meetings of the 37 sub-committees, with an overall attendance of almost 500 technicians; the distance traveled by these men in attending these meetings may be estimated at almost 28,000 miles. The significant fact concerning this organization is that all this activity, professional services, laboratory facilities, time and traveling expenses were contributed without any cost to the association and in turn to the whole textile industry. The only paid supervision was the time of the associate director of research, Bertil Ryberg, and the executive secretary, Dr. Harold G. Chapin, both resident at the Lowell Textile Institute.

The fruits of the labors of this research committee have been all the standards on color quality which govern textiles in this country today, as well as many other standards pertaining to special functions and finishes of textile materials.

Mr. Little's special committee was charged with the assignment of modernizing the association's research structure with the intent of intensifying its work, of relieving Dr. Olney, who will soon retire from the chair of textile chemistry at the Lowell Textile Institute, from administrative duties, and of supplementing and assisting the volunteer committees with a staff of paid laboratory technicians. To this end it proposed that a permanent executive committee on research be appointed to establish the general research policy of the association, and to organize and operate all the professional facilities which are to be set up. In its opinion the main objective of the A. A. T. C. C. is to carry out in a practical way research work of vital importance to the textile industry and only by so doing can it maintain its rightful position as an authority in this field. A competent director of research will be engaged to assume the duties of Dr. Olney when he is ready to relinquish them. Assisting him will be the present associate director,

Bertil Ryberg, and as new appointees an assistant research associate, two laboratory assistants and a clerk or research secretary. To finance the entire program a budget of \$35,000 per annum was approved.

Prizes Offered in Textile Contest

Five textile firms have contributed the purchase price of war bond prizes for winners in the first International Textile Exhibition which will open March 1 at Greensboro, N. C., under the sponsorship of the art department of the Woman's College of the University of North Carolina. First prizes will be \$100 bonds, and \$50 bonds will be awarded second place contestants.

Classifications are in machine woven, hand woven and printed textiles and textiles done by other processes. Interest of the textile industry in the undertaking, which has as its purpose the encouragement of creative work in textile design, is reflected in contribution of the five firms to the awards. American Enka Corp., American Viscose Corp., Burlington Mills Corp., Peerless Spinning Corp. of Gastonia and Marshall Field & Co. of Spray are the prize donors.

Leading textile designers and commercial companies of the United States have filed entries, as have designers from Mexico and Peru. Entries were received through Feb. 15, and then judging was begun by Mrs. Dorothy W. Liebes, textile designer of San Francisco; Meyric W. Rodgers, curator of decorative and industrial arts of Art Institute of Chicago, and Mary Leath Stewart of the college art staff. The exhibition will open in Weatherspoon Gallery at the college March 1 for a four-week showing. Many leading designers and representatives of textile corporations have indicated their intention of viewing the exhibition.

Management Consultant Service Offered

Assignment of W. B. Estes, experienced in management and industrial engineering, to head the War Production Board's management consultant program in the Southeast has been announced by Harry G. Thornton, WPB director for the Southeastern region.

Thornton explained that the prime objective of the new service is to provide experienced consultation assistance for industries seeking ways to increase production, especially through application of wage incentive plans, job evaluations, time and motion study techniques, production controls and similar engineering practices.

Wage incentive plans are commanding the attention of many Southeastern manufacturers as a means of increasing production, Thornton stated, adding that regional War Labor Board officials are giving earnest consideration to the many cases already submitted to them for approval. The services of Mr. Estes and his staff in analyzing and expediting these plans are available to industry through regional WPB headquarters in Atlanta, Ga., and the 11 district offices located in Georgia, Florida, Alabama, Tennessee, Mississippi, North Carolina and South Carolina.

Cadet Creme Co., 151 Farrar Ave., Worcester, Mass., is offering to the textile industry Cadet Skin-Kote, described as invisible work gloves. Stains and dyes, alkali and acid solutions, grime and other materials are said to have no irritating effect on the skin if Cadet Skin-Kote is used. Samples will be sent to interested persons if a request is made to the company at the above address.

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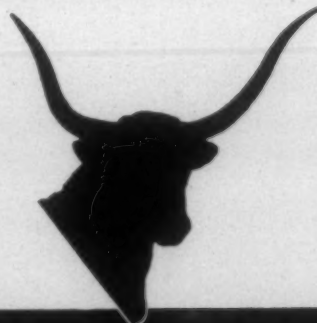
THE Textile Industry is doing a magnificent job in meeting the demands of our Armed Forces and our Allies, as well as our essential civilian requirements. Production in 1942 was *twice* that of a normal year. The Quartermaster General has stated on several occasions that the Textile Industry has kept well ahead of schedule on all major types of fabrics required . . . and that includes some 300 different fabrics specified by the Quartermaster Corps alone.



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Company's Retirement Plan Approved

A retirement plan for employees of American Viscose Corp., rayon producers, has been approved by the Commissioner of Internal Revenue and is now in effect, the company has announced.

The plan is intended to supplement old-age benefits under the Federal Social Security Act, and provides for a retirement income for employees who reach the age of 65 years. If an employee wishes, he may retire before reaching the age of 65, but the income payments are lower if he retires at an earlier age.

All employees between age 25 and 65 who have completed two years of service are eligible to become members of the plan. Benefits provided by the plan, together with Federal old age benefits, are designed to be equivalent in typical cases to approximately one and one-half per cent of the employee's average earnings multiplied by the number of years of contributory membership.

Under the retirement income plan the corporation contributes one and one-quarter times the amount contributed by each employee. Employees contribute two per cent of the first \$35 of weekly earnings, four per cent of the next \$25, and six per cent of earnings in excess of \$60 per week. In addition to the above provisions, the corporation is financing at its own expense pensions for employees who were 65 years of age or over on the date the plan became effective.

No Moth Damage At Philadelphia Depot

The Philadelphia Q. M. Depot has not lost a yard of cloth since the war began from moth damage, it was stated recently by Maj. Robert I. Urffer, chief of the storage division, in a description of preservation as a vital necessity. Expert stacking, the use of a spray, and an overall clean warehouse bring the results, keeping the cloth clean and preventing it from being moth-eaten, stained or wrinkled, Major Urffer says. In the last few months the depot has handled tens of millions of yards of cloth without loss, which is a reminder that one of the depot's chief functions is warehousing.

This function falls into such categories as (a) receipt of the materials; (b) inspection and release to storage; (c) storage and preservation; and (d) forwarding of the supplies as they are desired. Manpower shortage is overcome by using labor-saving aids, many of which are made at the depot.

British Post-War Textile Plans Announced

The first concrete proposals from British industry in regard to post-war plans came recently in a report from the board of trade's cotton committee, which declared the industry was contemplating expenditures of 43,000,000 pounds sterling (currently about \$172,000,000) on plants and machinery within five years after victory.

The report said the industry planned its own financing but suggested easing the excess profits tax to "favor use of profits for re-equipment." It also asked early relief from wartime controls, though it proposed that Parliament authorize the establishment of a post-war board to govern the industry and urged a system of price control. It asked government aid when the industry is ready to seek export trade.

U. S. Textiles Facing Opportunities and Problems in the Orient

A vivid picture of the effect of the textile industries of the Far East upon the future of our own textile industry is drawn by Fessenden S. Blanchard, president of the Textile Research Institute, in his treatise entitled, "The Textile Industries of China and Japan—Post-War Opportunities and Problems for America."

The textile industry is at the core of the economic problem of the Orient—which will require solution at the peace conference. Japan will again become a serious competitor of the American textile industry; her textile industry being in normal times by far her largest and most successful industry, Japan must of necessity be permitted to manufacture and export textiles. On the other hand, the Chinese textile industry may offer a splendid post-war opportunity for American capital and management—in co-operation with Chinese. The author has drawn upon his own first-hand experience in the Orient plus his close association with well informed sources versed in recent developments in those countries.

How the Japanese with their innate capacity for organization and unity of action have built, within a short span of years, a textile manufacturing industry of outstanding efficiency and one using every modern technological device is clearly explained; as well as other factors, in addition to low wage rates, that have enabled Japan to pile up surprising profits.

The Chinese textile industry is reviewed, together with reasons for its relative lack of success and the possibilities for the later removal of the obstacles to its future prosperity. It is pointed out that some of these obstacles may be overcome by a strong, central government, able and determined to put its economic house in order. Other difficulties, however, are dependent upon foreign co-operation, particularly American, through financial and management aid, encouraged by a willingness by the Chinese—now that extra-territoriality has been abolished—to provide favorable laws and protection to American participants in China's textile development.

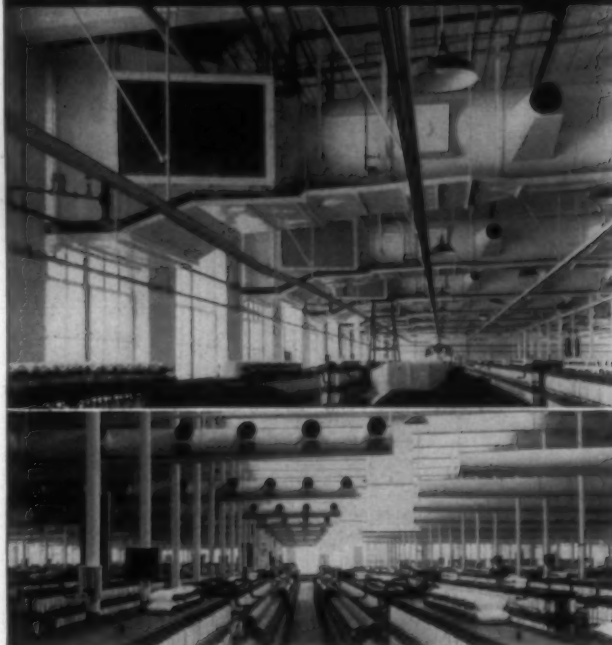
An appendix is included in which is assembled important statistical information, together with a comprehensive list of bibliographical references. The price of the 70-page book is \$1.00, postage paid to any point in the United States or Canada. Address Textile Research Institute, Inc., 10 East 40th St., New York 16, N. Y.

New Econ-o-matic Feature Described

A new 70-page handbook published recently explains the unique automatic belt tension control feature of American Econ-o-matic drives. It shows how and why Econ-o-matic drives increase machine production through eliminating belt slip, increase belt and bearing life and reduce drive maintenance. In addition, the handbook gives a complete V-belt and flat-belt drive selection tables, specifications and installation instructions. Address Dept. 164, American Pulley Co., 4200 Wissahickon Ave., Philadelphia 29, Pa.

Egg whites reclaimed from the cast-off shells of dehydrating and freezing plants are furnishing experimental material for spinning silk-like threads at the Western Regional Laboratory at Albany, Calif.

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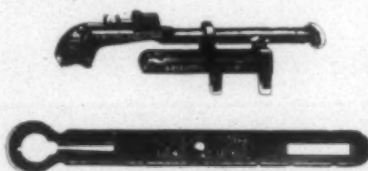
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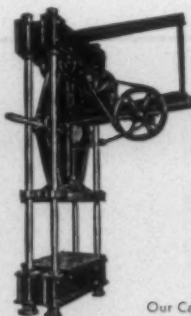
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